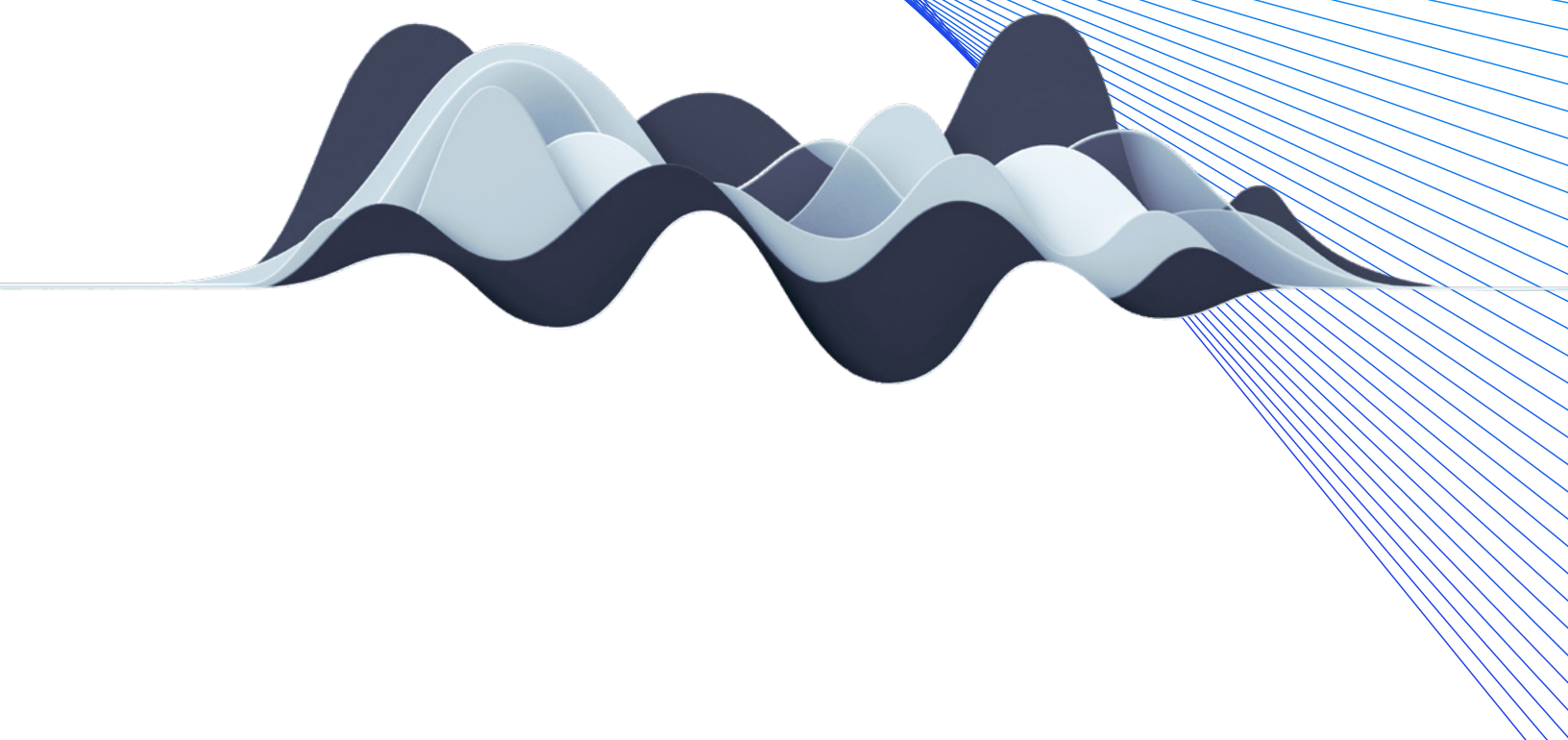


The 2021 McKinsey Global Payments Report

October 2021



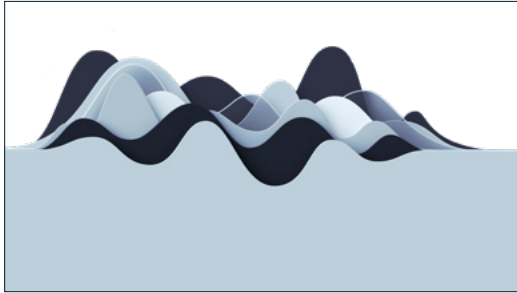


Global Banking Practice

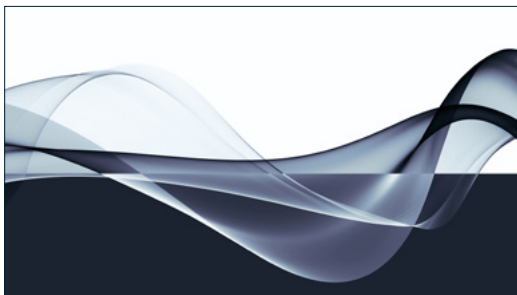
The 2021 McKinsey Global Payments Report

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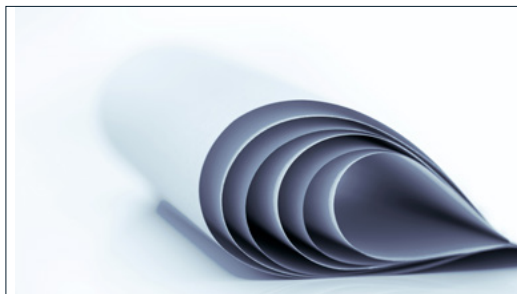
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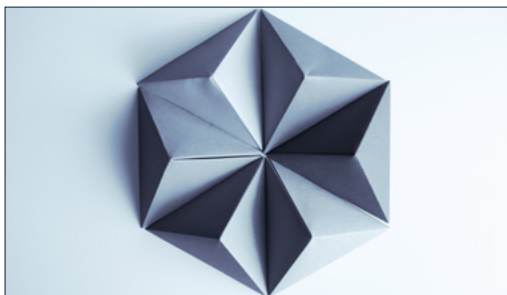
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Foreword

Last October, when we published McKinsey's 2020 Global Payments Report, it was already clear that the pandemic's economic impact would lead to the first decline in global payments revenues in 11 years.

One year later, the picture is unexpectedly positive—on the payments front—despite challenges.

Payments revenue did indeed decline—to \$1.9 trillion globally—but by less than we anticipated last fall. Indicators point to a nominal but geographically uneven rebound in 2021, bringing revenue back into the range of 2019's record high. From there, McKinsey projects a return to historical mid-single-digit growth rates, generating 2025 global payments revenue of roughly \$2.5 trillion.

The relatively muted 2020 topline numbers mask some important countervailing effects, however, which are poised to reset the scale of opportunity for payments players for years to come. The pandemic accelerated ongoing declines in cash usage and adoption of electronic and e-commerce transaction methods. Revenue gains in these areas were offset by tightening of net interest margins earned on deposit balances. All of these trends are expected to outlast the pandemic. The contraction of net interest income—combined with technology breakthroughs and the impact of open banking and fintech innovation—has spurred the creation of revenue models that within five years will offer adjacent opportunities as large as the core payments revenue pool.

In this report, we follow our analysis of the key insights behind the 2020 (and estimated 2021) numbers with a set of chapters offering perspectives on critical areas where payments leaders' actions will help determine market trajectory.

First, the highly publicized field of digital currency is entering a critical new phase. Prominent private firms are planning the introduction of “stablecoins,” while a growing number of central banks are proceeding with plans for central bank digital currencies (CBDCs) and simultaneously considering enactment of new regulations with the dual objectives of consumer protection and preserving the efficacy of traditional monetary policy. The trend may yet evolve in any of several directions—or ultimately prove to be more hype than substance. In “CBDC and stablecoins: Early coexistence on an uncertain road,” we explore current initiatives, highlighting potential challenges and opportunities for various financial players and steps each can take to prepare for and influence the ongoing conversation.

Next in the report, we look at the evolution of global transaction banking. Changes have been under way for some time, but the events of the past 18 months have brought the needs of corporate treasurers and CFOs into sharp relief. Historically, bank-provided treasury platforms have focused on

transaction execution. The advent of software-as-a-service and API connectivity has enabled a varied landscape of third-party providers to offer robust multifunctional workstations. In “How transaction banks are reinventing treasury services,” we examine the emergence of white-label treasury-as-a-service solutions, the digitization of corporate payments, and the options that banks have in this evolving ecosystem to defend and extend client opportunities.

We close with a look at how the new payments-adjacent revenue models will help define the future of merchant services, as the line

separating payment and software continues to blur. “Merchant acquiring and the \$100 billion opportunity in small business” describes the importance of expanding merchant acquiring and services to encompass a fuller array of commerce-related services, differentiation of merchant needs between large corporate enterprises and small and medium-size enterprises as well as by various sectors, and the ongoing impact of omnichannel commerce on merchant services.

As always, we welcome the opportunity to discuss these essential payments topics with you in greater detail.

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The authors wish to thank the following colleagues for their contributions to this report: Ashwin Alexander, Diksha Arora, Sukriti Bansal, Reet Chaudhuri, Vaibhav Dayal, Ian De Bode, Olivier Denecker, Nunzio Digiaco, Puneet Dikshit, Matt Higginson, Vik Iyer, Yash Jain, Tobias Lundberg, Yaniv Lushinsky, Baanee Luthra, Matteo Mantoan, Ratul Nagpal, Marc Niederkorn, Glen Sarvady, Nikki Shah, Julie Stefanich, Bharath Sattanathan, and Aparna Tekriwal.

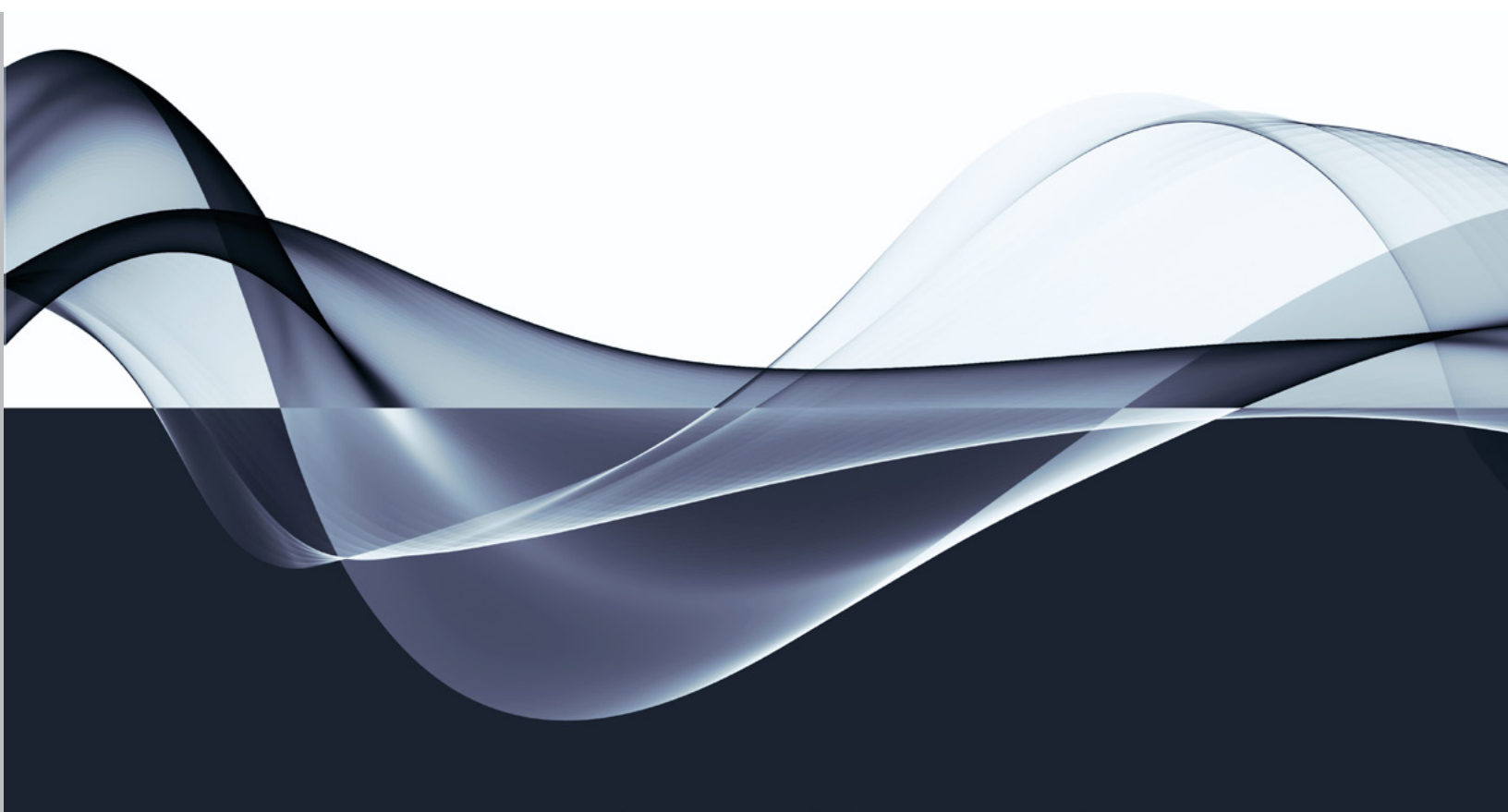
With special thanks to Vijay D'Silva for his guidance.

Global Banking & Securities

Global payments 2021: Transformation amid turbulent undercurrents

The global payments sector is poised for a quick return to healthy growth, but the benefits will not flow evenly to all participants.

by Philip Bruno, Olivier Denecker, and Marc Niederkorn



Undoubtedly, 2020 was a tumultuous year on many levels. Payments was no exception—the sector experienced its first revenue contraction in 11 years, a consequence of the economic slowdown that accompanied the global health crisis of COVID-19. Still, government and regulatory measures such as fiscal and monetary stimulus held the decline below the 7 percent we projected in last year's report.¹ At the same time, the continued digitization of commercial and consumer transactions contributed even greater upward momentum than expected.

Global payment revenues totaled \$1.9 trillion in 2020, a 5 percent decline from 2019 (Exhibit 1), as compared to the 7 percent growth rate observed between 2014 and 2019. This result seems fairly intuitive on the surface; a granular analysis, however, reveals a series of often offsetting trends. Overall, the payments industry proved remarkably resilient to drastic economic changes even as many

economies spent significant portions of the year in lockdown.

Looking forward, we see a handful of primary drivers influencing the payments revenue trajectory. On the one hand, continued cash displacement and a return to global economic growth will accelerate existing upward trends in the share and number of electronic transactions. On the other, interest margins will likely remain muted. Sustained softness in this key topline contributor will create greater incentive for payments players to pursue new fee-driven revenue sources and to expand beyond their traditional focus to adjacent areas such as commerce facilitation and identity services.

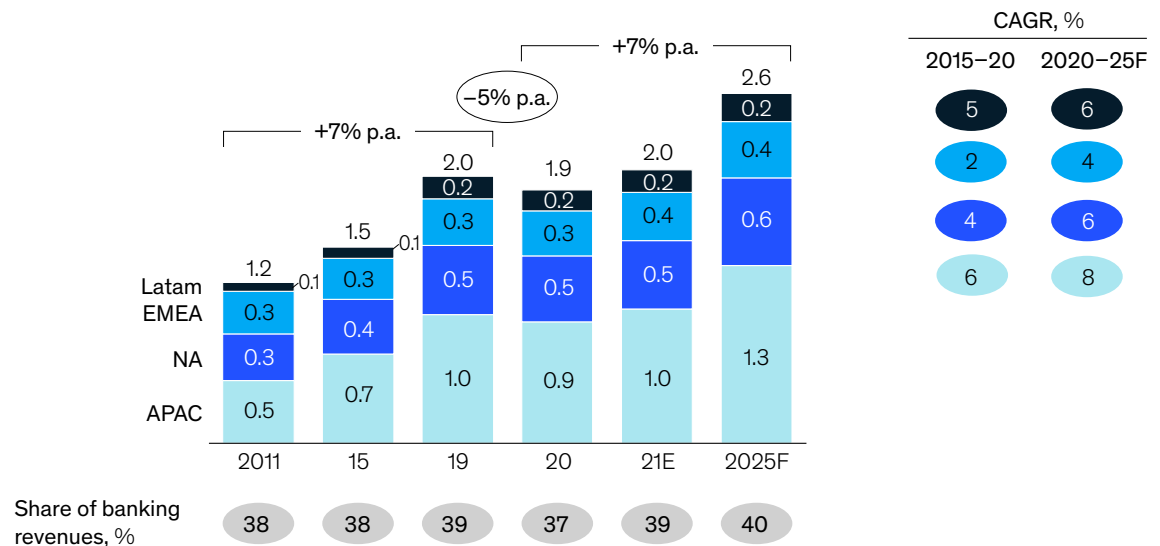
Given the above assumptions we expect global payments revenues to quickly return to their long-term 6 to 7 percent growth trajectory, recouping 2020's declines in 2021 and reaching roughly \$2.5 trillion by 2025. More importantly, however,

¹Philip Bruno, Olivier Denecker, and Marc Niederkorn, "Accelerating winds of change in global payments," October 2020, McKinsey.com.

Exhibit 1

Global payments revenues declined by 5 percent in 2020.

Global payments revenue, \$ trillion



as “payments” become further absorbed into commercial and consumer commerce journeys, established payments providers will gain access to adjacent opportunities as large as the core payments revenue pool. Of course, an opportunity of this magnitude draws attention—tech firms and ecosystem competitors are already focusing on these attractive (and often less regulated) elements of the payments value chain, rather than traditional interchange, acquiring, and transaction fees linked to payment flows.

Following a brief review of 2020 results and preliminary snapshot of 2021's projected outcome, we will explore these opportunities in greater detail.

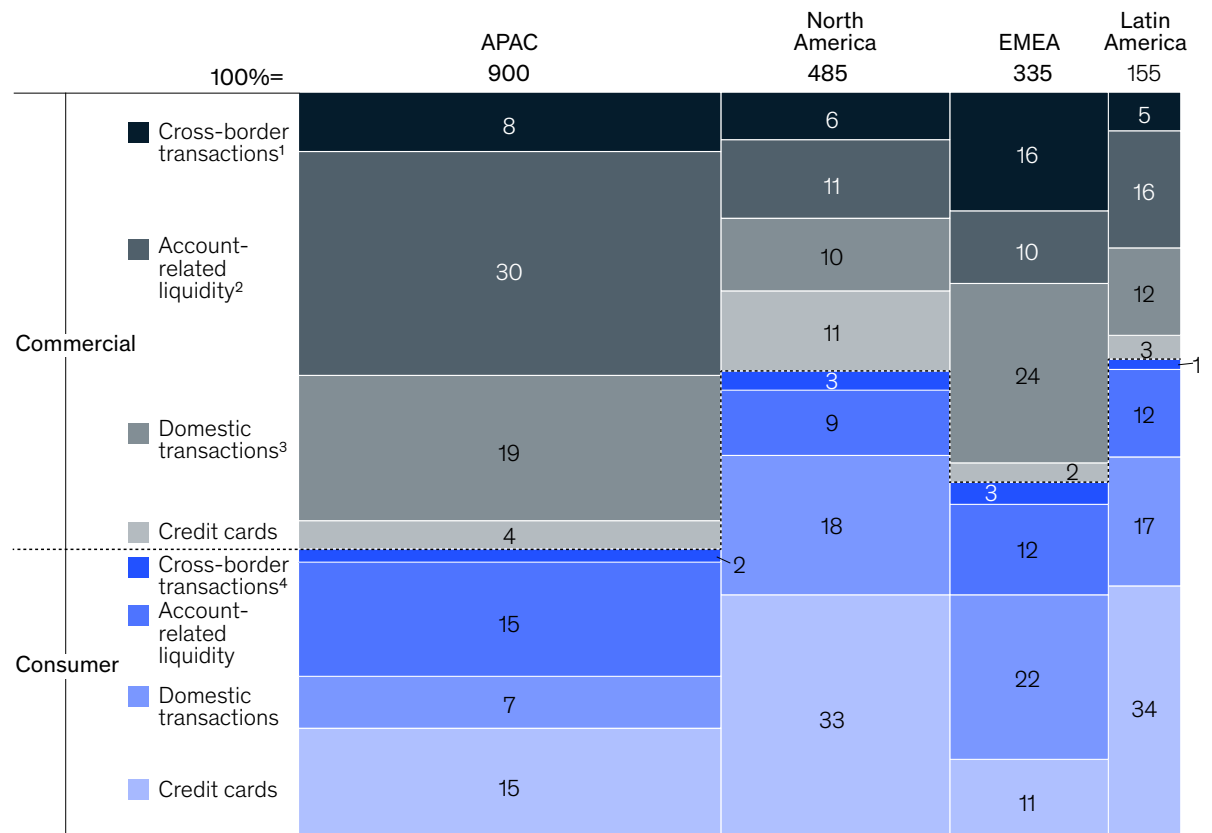
2020–21: A period of transition

The overall 5 percent decline in payment revenues is composed of divergent regional trends: Asia–Pacific, which has consistently outpaced other regions in payments revenue growth over the past decade, registered a 6 percent pullback in 2020, while Latin America's 8 percent decline was the steepest of all regions. Europe, Middle East, and Africa (EMEA) and North America experienced revenue declines of 3 percent and 5 percent, respectively, mostly driven by continued reduction of net interest margins (NIMs) in EMEA and contracting credit card balances in North America.

Exhibit 2

Asia-Pacific dominates the global payments revenue pool.

Payments revenue, 2020, % (100% = \$ billion)



¹Cross-border payment services (B2B, B2C).

²Net interest income on current accounts and overdrafts.

³Fee revenue on domestic payments transactions and account maintenance (excluding credit cards).

⁴Remittance services and C2B cross-border payment services.

Source: McKinsey Global Payments Map

Note: Figures may not sum to 100%, because of rounding.

The global contribution of net interest income (NII) to payments revenue has declined steadily from 51 percent in 2010 to 46 percent in 2020. Over the past year, a 31-basis-point contraction in global interest margins (compared to a decline of 25 bps predicted last fall) reduced payments revenue by \$66 billion—two-thirds the total global net decline.

Proportionally, the impact was felt even more sharply in EMEA, which traditionally relies more heavily on NII, and endured an absolute decline of \$42 billion over the past decade (Exhibit 2). Some banks have begun offsetting the interest revenue loss through higher account maintenance fees, while negative interest rates on accounts have materialized in some European markets—mostly on corporate accounts but increasingly on large retail deposits as well.

Cross-border payments, a natural casualty of reduced travel and global supply chain challenges, accounted for the remainder of the revenue decline. By contrast, the explosion in e-commerce and reduction in cash usage helped minimize the decline in domestic transaction fee income.

We expect pressure on both fee and processing margins to continue in many regions, while recovery in interest margins is expected to be slow and moderate at best. These combined forces disproportionately affect incumbent players reliant on traditional revenue streams, such as card issuers and banks holding significant commercial and consumer deposit balances, and thus spur a need to rethink payments revenue models and identify alternative paths to value.

As might be expected given 2021's uneven global economic recovery, payments trends are showing similar disparity by country and region; for instance, revenues in Asia-Pacific and Latin America are expected to grow in the 9 to 11 percent range, compared to EMEA and North America at 4 to 6 percent. In aggregate, a likely solid increase in 2021 should leave global payments revenues equivalent

to the 2019 result while setting the stage for a broad-based recovery. From that point, we forecast five-year revenue growth rates roughly on par with those generated in the five years preceding the pandemic—excluding the realization of additional revenue sources discussed below.

Enduring shifts in behavior

The pandemic reinforced major shifts in payments behavior: declining cash usage, migration from in-store to online commerce, adoption of instant payments. These shifts create new opportunities for payments players; however, it is unclear which are permanent and which are likely to revert—at least partially—to prior trajectories as economies reopen. Nonetheless, the long-term dynamics seem clear.

Cash payments declined by 16 percent globally in 2020, performing in line with the projections we made last fall for most large countries (Brazil 26 percent decline, United States 24 percent decline, United Kingdom 8 percent decline). Although the pandemic-driven temporary shuttering of many commercial venues was the primary trigger in this dramatic shift, other actions (such as countries like Argentina, Poland, and Thailand increasing ATM withdrawal fees, and the continued downsizing of ATM networks in Europe) reinforced and accelerated behavioral changes already under way. We expect cash usage to rebound to some extent in 2021, due to a partial return to past behaviors, fewer lockdowns, and a broader economic recovery, but evidence indicates that roughly two-thirds of the decrease is permanent.

The reduction in cash demand is leading to increasing unit servicing costs for its distribution and collection, prompting banks to review ATM footprints and rethink their cash cycle management. One response has been growth in ATM sharing between network banks and greater outsourcing of ATM servicing to specialized cash-in-transit (CIT) players—first observed in Northern Europe and now in Latin America (for example, a joint

venture between Euronet and Prosegur Cash to provide comprehensive ATM outsourcing services).

Regulators in countries with dramatic reductions in cash usage are preparing strategies to ensure continued availability of central bank currency and access to resilient and free payments systems for all—including the un- and underbanked. The situation is driving heightened interest in central bank digital currencies (CBDCs), as discussed in chapter 2.

Retailers, particularly digital commerce marketplaces, have elevated their competitive position, moving from traditional credit-card and consumer-finance solutions to pursue deepened customer engagement leveraging payment solutions. For example, MercadoLibre, Latin America's largest e-commerce player, owns the online payments network MercadoPago, and has built an ecosystem encompassing marketplace, payments, shipping, software-as-a-service, and advertising. The enhanced customer experience, as well as revenue and valuations generated by retailers, have challenged banks to up their game in order to preserve their market position. One example is the collective launch of mobile payments platform Modo by more than 35 Argentine financial institutions in December 2020, offering a solution for account-to-account money transfers and in-store QR payments.

New form factors, faster payments

As expected, both the pandemic's impact and the resulting economic environment led to significant shifts in spending patterns. Globally, the number of non-cash transactions grew by 6 percent from 2019 to 2020.

Digital-wallet usage surged, as consumer preferences evolved even within contactless forms. In Australia, an early success story in "tap to pay" adoption, digital-wallet transactions grew 90 percent from March 2020 to March 2021—by

which point 40 percent of combined debit/credit contactless volume originated via digital wallets.² In Indonesia, the value of e-money transactions grew by nearly 39 percent between 2019 and 2020, fueled primarily by an increase in digital adoption.³

Real-time payments are playing an increasingly important role in the global payments ecosystem, with the number of such transactions soaring by 41 percent in 2020 alone, often in support of contactless/wallets and e-commerce.⁴ Over the last year growth in instant payments varied widely across countries—from Singapore at 58 percent to the United Kingdom at 17 percent.

Asia-Pacific continues to lead the way in real-time payments: India registered 25.6 billion transactions in 2020 (a 70 percent-plus increase over 2019), followed by China and South Korea. Real-time functionality also fueled mobile wallet adoption in Brazil, which introduced its national real-time payments system, PIX. Fifty-six countries now have active real-time payment rails, a fourfold increase from just six years earlier. In many cases these new clearing and settlement systems took some time to build momentum but are now delivering long-promised volumes.

The introduction of applications capitalizing on instant payments infrastructure in recent years (PhonePe and GooglePay in India, PayNow in Singapore) has given added impetus to growth. Regional solutions are also staking out ground between global networks (such as Visa and Mastercard) and incumbent domestic schemes. For example, the European Payments Initiative (EPI) is building a unified pan-European payments solution leveraging the Single Euro Payments Area (SEPA) Instant Credit Transfer (SCT Inst) scheme for point of sale as well as online usage. In the United States, The Clearing House's RTP clearing and settlement system has been steadily building volume since its 2017 launch, with Visa Direct and Mastercard Send offering related in-market functionality, and the Federal Reserve's FedNow Service scheduled to launch in 2023.

²"Digital wallets poised to overtake contactless cards as instore payment of choice in Australia," Finextra, May 19, 2021, finextra.com.

³Janine Marie Crisanto, "Indonesia e-wallet transaction to reach \$18.5 billion in 2021 amid fierce competition," *The Asian Banker*, April 9, 2021, theasianbanker.com.

⁴"Global Real-Time Payments Transactions Surge by 41 Percent in 2020 as COVID-19 Pandemic Accelerates Shift to Digital Payments - New ACI Worldwide Research Reveals," ACI Worldwide, March 29, 2021, investor.aciworldwide.com.

Initial real-time payment growth has been primarily in peer-to-peer settings and online transactions. The next tests will be the consumer-to-business point-of-sale and billing spaces (the latter representing a B2B opportunity as well), and their more straightforward paths to monetization.

The pandemic has pushed businesses to reorient their payments operations and customer interactions. Small and medium-size enterprises (SMEs) are increasingly aware of the payment solutions available to them and are motivated to encourage the use of those that best serve their needs and those of their customers. For instance, payments providers are competing to offer customized solutions like QR code, “tap to pay,” and link-based payments (processes initiated by merchants sharing a URL) that make the payment experience seamless, pleasant, and increasingly contactless. Simplification in the merchant onboarding process can also help in attracting more sellers, reducing cost, and elevating the merchant experience.

For example, Mastercard in India launched Soft POS, a multiform-factor white-label solution for banks and payments facilitators that enables a smartphone to function as a merchant acceptance device. Other examples include value-added services like virtual shops and solutions that record and store credit transactions. Network-based marketing enables SMEs to reach a larger pool of customers.

Social-media platforms have embedded payment features, enabling SMEs to execute sales through networks such as Instagram. Venmo’s social-commerce platform helps build SME brand awareness as users can see, like, and comment on each other’s purchases—a useful feature for street vendors and small-business owners who often lack funds to invest in marketing and promotions.

New opportunities in payments

The push for digital identity verification systems gained momentum during the pandemic, both as a

facilitator for expanding e-commerce volumes and as a means for governments to rapidly disburse welfare and other social payments. Examples proliferated across the globe: a digital ID system enabled Chilean authorities to swiftly pre-enroll millions of beneficiaries in social programs and allowed potential recipients to confirm eligibility and, where necessary, appeal their support status online.⁵ In Thailand, more than 28 million people applied for a new benefit for informal workers affected by the pandemic: a digital ID system enabled the government to efficiently filter out those eligible for assistance through other programs.

Digital ID-enabled payment solutions achieved broader usage as well. Transactions through India’s bank-led and real-time Aadhaar Enabled Payments System (AEPS) more than doubled over the two years ending in March 2021, while the value conveyed more than tripled over the same period.

Cross-border payments remain a significant growth area (Exhibit 3). In 2020, even with travel and trade volumes in decline, cross-border e-commerce transactions grew 17 percent. Volumes for cross-border network provider SWIFT were 10 percent higher in December 2020 compared to the prior year: not only has the “re-shoring” of production chains and related shift in trade flows we expected last year so far failed to materialize, but increases in non-trade payment flows have more than offset lower transaction volumes in trade, driven by increased volatility in treasury, FX, and securities. These dynamics are leading to growth in volumes as well as record market valuations for a growing list of payments specialists such as Currencycloud (recently acquired by Visa), Banking Circle, and Wise.

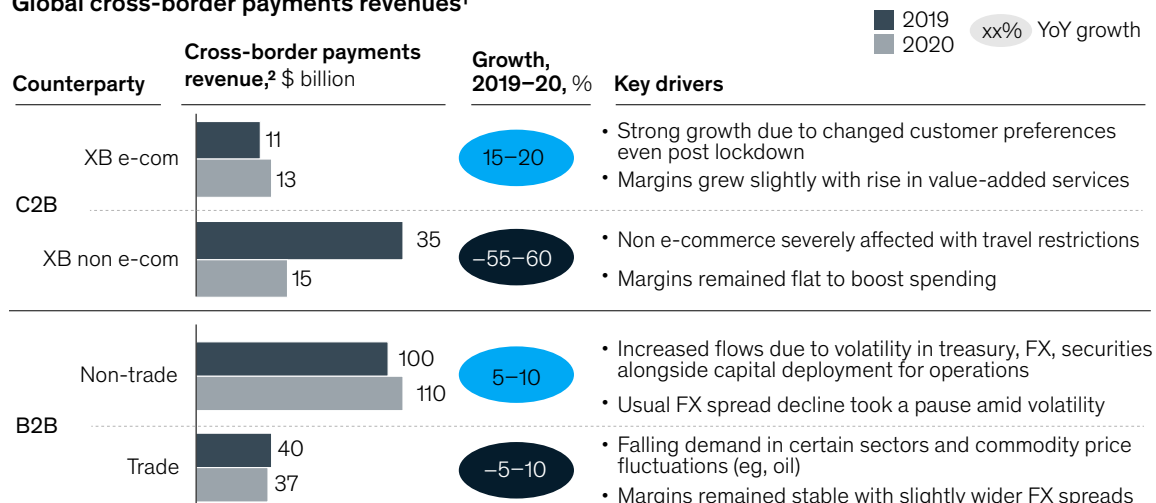
The B2B payment arena is also showing strong growth internationally, especially when viewed in conjunction with invoicing and accounts receivable/accounts payable (AR/AP) management solutions. The largest transaction banks continue to invest in innovative solutions; and Goldman Sachs, a more recent entrant into the space, is developing a platform including integration with SAP Ariba. Given industry-wide initiatives—led by SWIFT and the

⁵Mari Elka Pangestu, “Harnessing the power of digital ID,” World Bank Blogs, August 20, 2020, blogs.worldbank.org.

Exhibit 3

Cross-border payment results were mixed, due to nuances in the underlying segments.

Global cross-border payments revenues¹



¹Revenues include payment and collection fees, FX spread and float revenue, and documentary business fees for relevant trade flows for 46 Payments Map countries driving approximately 95% of global GDP.

²Estimates, rounded. C2C and B2C not included.

Source: McKinsey Global Payments Map

Financial Stability Board (FSB)—aiming to further increase efficiency of cross-border transactions, we project 6 percent revenue growth in total cross-border payments revenue over the next five years. We discuss this further in chapter 3.

The next frontier

The process of reexamining long-standing payments value propositions is already under way. While old tenets still hold true—scale still matters and “owning” the customer relationship remains important, for instance—sticking to them is no longer sufficient to ensure success. The absorption of payments into the full commercial/consumer purchase-to-pay journey has given rise to ecosystems demanding new, more robust services; for example, commerce facilitation rather than a discrete payment experience.

As payments become integrated into broader customer journeys, the sector’s boundaries have naturally expanded. In the 1980s, we defined *payments* as the various instruments, networks, access and delivery mechanisms, and processes facilitating the exchange of value between buyers and sellers of goods and services. But this notion of payments as a discrete experience is gradually disappearing. The payments industry now encompasses the end-to-end money-movement process, including the services and platforms enabling this commerce journey.

For example, while payments as traditionally defined comprise only 5 to 7 percent of a typical merchant’s software and services spending, payments providers with solid reputations for execution and innovation are well positioned to deliver solutions addressing needs constituting 40 percent of such expenses. Such opportunities help explain why less

than one-third of Square's revenue would be strictly categorized as payments. Similarly, within five years, we expect 40 percent of merchant acquirer revenues to stem from activities other than payment processing.

For players with established credibility in the provision of core payments functionality, the following areas offer attractive natural extensions, although these opportunities will not be evenly distributed across regions:

- *Payments and banking-adjacent software, infrastructure, and services.* The largest shares of payments revenue continue to accrue at the endpoints of the value chain, where direct interaction with payers and payees is central to the proposition. Even as the payment “pipes” and underlying technology face potential commoditization, opportunities abound in the rapidly evolving payments-as-a-service space, through which traditional players provide the transactional and compliance backbone that enables partners to deliver adjacent

services through reimagined front ends. Most examples to date have centered on consumer-facing solutions, but potential remains on the commercial side as well. Other important and less commoditized value-added items include digital identity, risk solutions, charge-back mitigation, and KYC-as-a-service.

- *Commerce, sales, and trade enablement.* Non-bank market entrants often derive their value from related services, driving down payments pricing in the process. Banks must consider similar approaches to avoid being disadvantaged. In most cases, marketplaces have successfully cultivated an adequate stream of prospective buyers; attracting an ample supply of sellers with distinctive wares is a more vexing challenge—one that payments facilitators are well positioned to solve, leveraging data analytics to reduce time to revenue. Solutions focused on automating the onboarding process, increasing the stickiness of users, and improving the seller experience should find a ready market. Examples include affiliate marketing, loyalty

Asia-Pacific's \$210 billion payments revenue opportunity

Asia-Pacific has been the largest and fastest-growing payments revenue region for the past several years. Given the consistently strong growth rate of China's economy, this result is not surprising. More interesting, however, is the unique composition of Asia-Pacific's payments revenue and its implications for longer-term growth.

It is illuminating to consider the payments characteristics of the rest of Asia-Pacific apart from China. Whereas China accounts for roughly three-fourths of the region's revenue—and indeed generates more payments revenues than any of the individual major global regions—a disproportionate share of its payments revenue is generated by net interest margins earned on deposit balances—particularly those in commercial accounts. As a consequence, the majority of China's payments economics are inaccessible to institutions and providers domiciled outside the country.

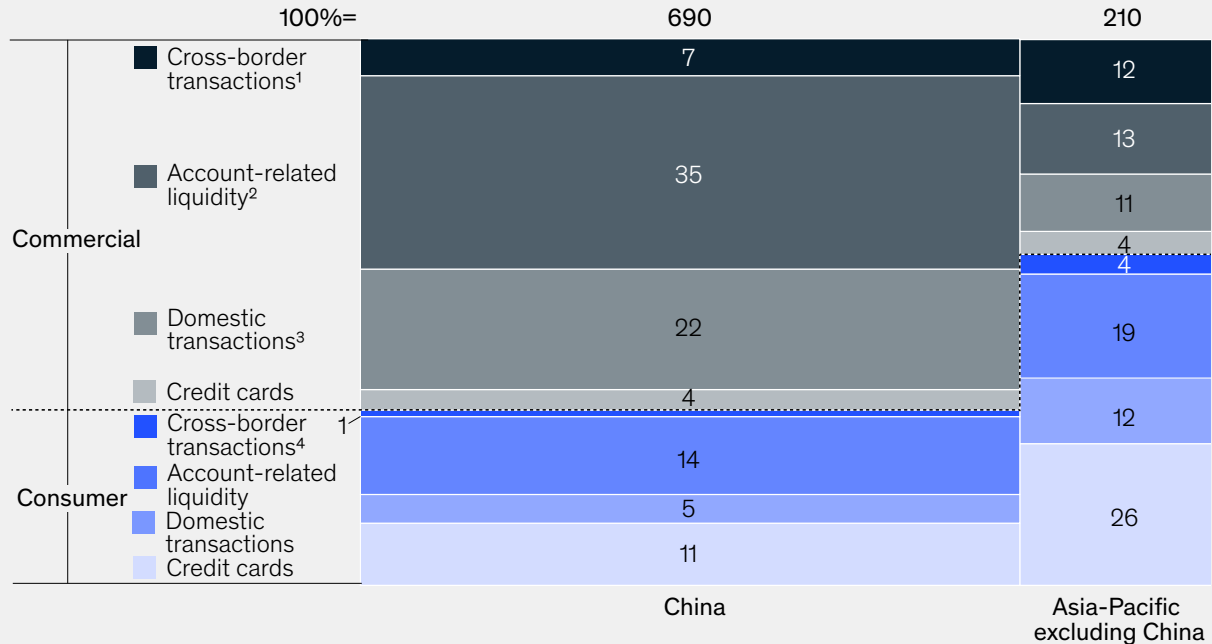
The payments dynamics for the rest of Asia-Pacific stand in stark contrast (exhibit). In fact, these characteristics bear a striking resemblance to Latin America—not only in terms of total revenue (its \$210 billion is roughly 35 percent higher than Latin America's)—but more importantly in its relative focus on consumer activity and credit cards. Only a third of Asia-Pacific's revenues outside of China are derived from account liquidity, as compared to 50 percent for China.

The pandemic has accelerated reductions in cash usage, particularly in key markets like Indonesia and Thailand, creating new digital revenue opportunities. While some transactions will return as physical storefronts reopen, a solid majority has likely moved permanently to card and wallet-based forms, as well as to emerging online categories such as telemedicine and online yoga and fitness.

Exhibit

Payments revenue dynamics vary across Asia-Pacific.

Payments revenue, 2020, % (100% = \$ billion)



¹Cross-border payment services (B2B, B2C).

²Net interest income on current accounts and overdrafts.

³Fee revenue on domestic payments transactions and account maintenance (excluding credit cards).

⁴Remittance services and C2B cross-border payment services.

Source: McKinsey Global Payments Map

Although China has served as Asia-Pacific's primary growth driver over the past decade, India's payments revenues are now growing at a faster rate, and in 2020, surpassed Japan as the region's second-largest revenue generator. Indonesia is another impressive growth story, posting a 2014–19 CAGR of nearly 9 percent, coinciding with multiple payments-related reforms launched by the regulator. A decline in NIMs reversed this trend for 2020, but indicators point to a return to rapid growth in 2021. We project India and Indonesia alone will generate \$34 billion of incremental annual revenue by 2025, representing annual growth of nearly 8 percent.

Despite low single-digit revenue growth in mature payments countries such as Japan and Australia, we forecast the Asia-Pacific region excluding China to grow at nearly 7 percent between 2021 and 2025—a rate only slightly slower than China's. The growth rates of strategically important payments categories like cross-border and instant payments are also expected to remain on similar trajectories.

The region is filled with opportunity: from rapidly expanding B2B activity to an explosion in digital wallets supporting small businesses as well as consumers, accelerated digitization fueled by rapid infrastructure developments, and integrated platforms providing access to multiple ecosystems. Increased access to real-time payment rails has fueled rapid growth in bilateral cross-border payment activity: notable early successes span the Singapore, Indonesia, and Thailand corridors—an area with significant potential for value-added services.

Players interested in the Asia-Pacific market should not overlook growth engines in countries beyond China, many of which offer clearer paths to foreign participation.

solutions, e-invoicing platforms, and B2B trade directories.

- *Balance-sheet-based offerings.* Banks are similarly well equipped to introduce new solutions based on emerging payment methods such as instant payment and “buy now pay later” (BNPL) models, or to integrate new solutions and technologies into existing value propositions. Financing and deposit models with significant regulatory requirements or higher risk profiles (including credit cards, BNPL, supply chain and SMB financing) are among the promising areas.

The payments sector is poised for a quick return to healthy 6 to 7 percent growth rates, with fresh

opportunities for incumbents and new entrants alike to participate in emerging adjacent revenue streams, further brightening the future picture.

These benefits will not flow evenly to all, however. Players electing not to adapt their strategies—whether by choice, inaction, or lack of investment capacity—are likely to endure below-peer growth and risk being displaced on key customer experiences.

In the remainder of this report, we outline the opportunities—as well as the threats—emerging in cryptocurrencies and CBDCs, global transaction banking, and merchant services.

Philip Bruno is a partner in McKinsey's New York office, **Olivier Denecker** is a partner in the Brussels office, and **Marc Niederkorn** is a partner in the Luxembourg office.

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Global Banking & Securities

CBDC and stablecoins: Early coexistence on an uncertain road

With the rapid rise in circulation of stablecoins over the past couple of years, central banks have stepped up efforts to explore their own stable digital currencies.

by Ian De Bode, Matt Higginson, and Marc Niederkorn



Cryptocurrency has been touted for its potential to usher in a new era of financial inclusion and simplified financial services infrastructure globally. To date, however, its high profile has derived more from its status as a potential store of value than as a means of financial exchange. That disconnect is now evolving rapidly with both monetary authorities and private institutions issuing stabilized cryptocurrencies as viable, mainstream payments vehicles.

The European Central Bank announced recently it was progressing its 'digital euro' project into a more detailed investigation phase.¹ More than four-fifths of the world's central banks are similarly engaged in pilots or other central bank digital currency (CBDC) activities.² Concurrently, multiple private, stabilized cryptocurrencies—commonly known as stablecoins—have emerged outside of state-sponsored channels, as part of efforts designed to enhance liquidity and simplify settlement across the growing crypto ecosystem.

Although the endgame of this extensive activity that spans agile fintechs, deep-pocketed incumbents, and (mostly government-appointed) central banks remains far from certain, the potential for significant disruption of established financial processes is clear. Against this backdrop we offer a fact-based primer on the universe of collateralized cryptocurrency, an overview of several possible future scenarios including potential benefits and obstacles, and near-term actions that participants in today's financial ecosystem may consider in order to position themselves.

The digital currency landscape

The basic notion of a digital currency (replacing the need for paper notes and coins as a means of exchange with computer-based money-like assets) dates back more than a quarter of a century. Early efforts at creating digital cash—such as DigiCash (1989) and e-gold (1996)—were issued by central agencies. The emergence of Bitcoin in 2009 dramatically altered this model in two important ways: by establishing a decentralized

(blockchain-based) ledger for transaction execution and record keeping, and by creating a (now) widely traded currency outside the control of any sovereign monetary authority. Thousands of similar decentralized cryptocurrencies now exist, collectively generating billions of dollars in global transaction volume every day.

Although the aggregate market value of such cryptocurrencies now exceeds \$2 trillion, extreme price volatility, strong price correlation to Bitcoin, and often slow transaction confirmation times have impeded their utility as a practical means of value exchange. Stablecoins aim to address these shortcomings by pegging their value to a unit of underlying asset, often issued on faster blockchains, and backing the coins wholly or partially with state-issued tender (such as the dollar, pound, or euro), highly liquid reserves (like government treasuries), or commodities such as precious metals. Collectively, nearly \$3 trillion in stablecoins such as Tether and USDC were transacted in the first half of 2021 (Exhibit 1).

With the rapid rise in circulation of stablecoins over the past couple of years, central banks have stepped up efforts to explore their own stable digital currencies (Exhibit 2). Some efforts to create CBDCs have been born out of reservations about the impact of privately issued stablecoins on financial stability and traditional monetary policy, and with the goal of improving access to central bank money for private citizens, creating greater financial inclusion and reducing payments friction.

Various public statements indicate that central banks envision CBDCs as more than simply a digital-native version of traditional notes and coins. Beyond addressing the challenge of greater financial inclusion, some governments view CBDCs as programmable money—vehicles for monetary and social policy that could restrict their use to basic necessities, specific locations, or defined periods of time.

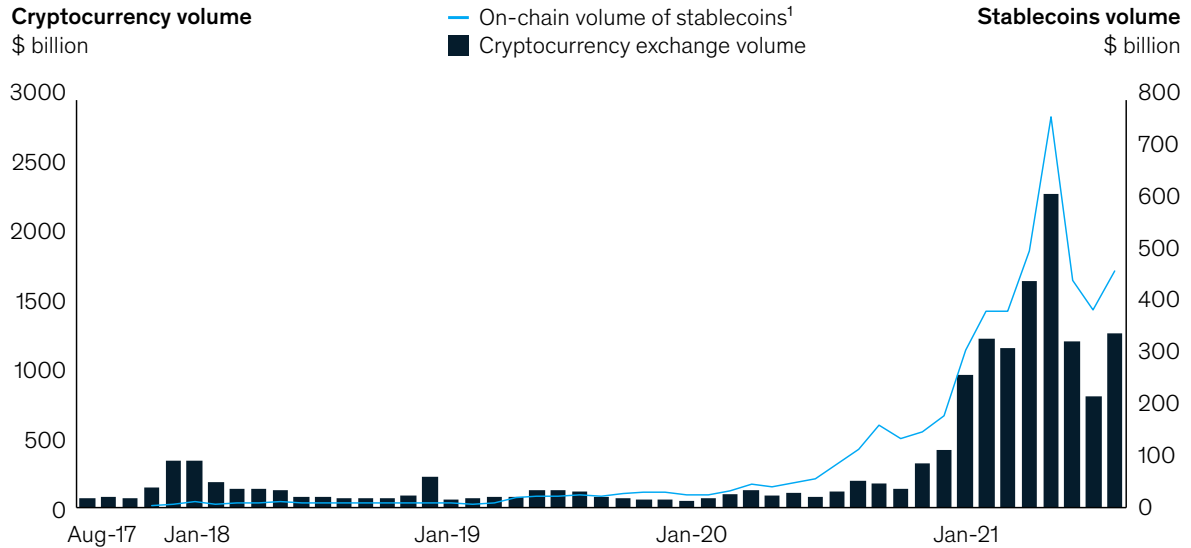
Implementing such functionality will be a complex and multilayered undertaking. Meanwhile, central

¹"Eurosystème launches digital euro project," press release, European Central Bank, July 2021, [ecb.europa.eu](https://www.ecb.europa.eu).

²Codruta Boar and Andreas Wehrli, *Ready, steady, go? Results of the third BIS survey on central bank digital currency*, Bank for International Settlements, BIS Papers, number 114, January 2021, [bis.org](https://www.bis.org).

Exhibit 1

The rise in circulation of stablecoins has closely tracked the volume of cryptocurrencies traded on exchanges over the past three years.

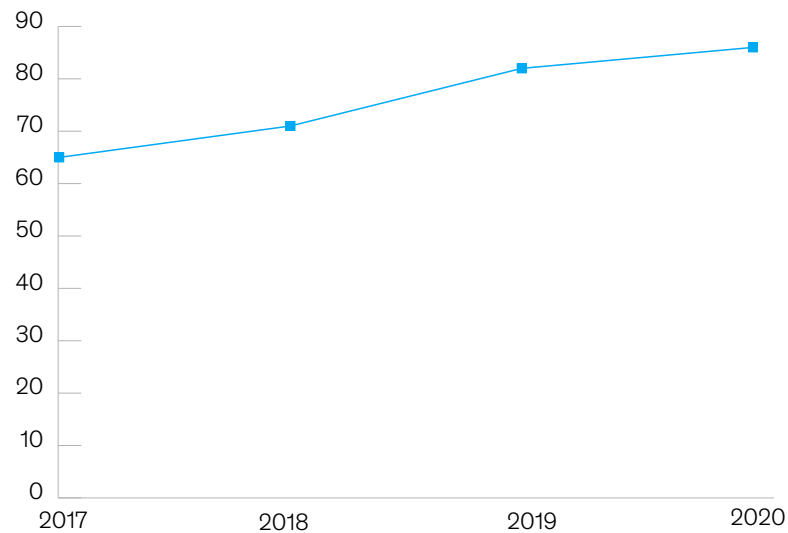


¹Volume of stablecoins exchanged represents all transactions recorded on the relevant blockchains. These volumes are distinct from the volume of crypto traded on exchanges, some of which may be transacted between accounts off-chain.
Source: Theblockcrypto.com

Exhibit 2

The proportion of central banks actively engaged in CBDC work is growing.

Share of respondents conducting work on CBDCs, %



Source: Codruta Boar and Andreas Wehrli, "Ready, steady, go? – Results of the third BIS survey on central bank digital currency," Bank for International Settlements, January 2021, bis.org.

banks face the challenge of introducing a timely CBDC model at least on par with digital offerings of private-sector innovators in order to establish credibility with such efforts and achieve adoption. While existing electronic payment systems are considered by some to be expensive, inefficient, and at times difficult to access,³ emerging privately issued stablecoin alternatives could raise concerns over the potential for large private entities to aggregate—and monetize—large sets of behavioral data on private citizens.

Potential future scenarios: Coexistence or primacy?

It is too early to confidently forecast the trajectory and endgame for CBDCs and stablecoins, given the multitude of unresolved design factors still in play. For instance, will central banks focus first on retail or wholesale use cases, and emphasize domestic or cross-border applications? And how rapidly will national agencies pursue regulation of stablecoins prior to issuing their own CBDCs?

To begin to understand some of the potential scenarios, we need to appreciate the variety and applications of CBDCs and stablecoins. There is no single CBDC issuance model, but rather a continuum of approaches being piloted in various countries. One design aspect hinges on the entity holding CBDC accounts. For instance, the account-based model being implemented in the Eastern Caribbean involves consumers holding deposit accounts directly with the central bank. At the opposite end of the spectrum, China's CBDC pilot relies on private-sector banks to distribute and maintain eCNY (digital yuan) accounts for their customers. The ECB approach under consideration involves licensed financial institutions each operating a permissioned node of the blockchain network as a conduit for distribution of a digital euro. In a potential fourth model popular within the crypto community but not yet fully trialed by central banks, fiat currency would be issued as anonymous fungible tokens (true digital cash) to protect the privacy of the user.

By comparison, stablecoins such as the dollar-denominated USDC are issued across multiple public, permissionless blockchains. Any individual can operate a node of an issuing blockchain such as Ethereum, Stellar, or Solana; and anyone can transfer stablecoins between pseudonymous wallets around the world. While most exchanges today require users to complete thorough Know Your Customer (KYC) identity checks, no central registry for users or single ledger for tracking ownership of stablecoins currently exists, potentially complicating identity considerations.

Many see the current development of CBDCs as a response to the challenge private-sector stablecoins could pose to central bank prerogatives, and as evidence of the desire of institutions to address long-term goals such as payment systems efficiency and financial inclusion. Cash usage in many countries continues to dwindle, while the cost to maintain its infrastructure does not. Similarly, many countries' existing electronic payment systems are relatively inefficient to operate and often not instantaneous or 24/7. Perhaps most importantly, proper deployment of a regulated digital currency accessible through mobile devices without the need for a formal bank account could potentially enhance payments security and efficiency (ensuring transaction finality through distributed consensus with private key cryptography), while satisfying central banks' goal of increasing financial inclusion and advancing the public good.

By contrast private stablecoins have flourished, perhaps in part through being unencumbered by such an expansive mission. They've delivered value as a source of liquidity in the crypto ecosystem, often providing a "safe haven" for investors during times of heightened volatility by obviating the need to enlist a regulated venue to convert cryptocurrency holdings back into fiat deposits. Indeed, the emergence and growth of supply of the prominent stablecoin Tether first coincided with the rapid increase in cryptocurrency transaction volume

³"From the payments revolution to the reinvention of money," speech by Fabio Panetta, Member of the Executive Board of the ECB, at the Deutsche Bundesbank conference on the "Future of Payments in Europe," Frankfurt, November 27, 2020.

on exchanges in late 2017, many of which did not have fiat licenses.

Stablecoins are typically collateralized by professionally audited reserves of fiat currency or short-term securities. They play a role today not just as “crypto reserves” but also as a source of liquidity across decentralized finance (DeFi) exchanges. Stablecoins, unlike the proposed design of CBDCs, which are generally issued on private ledgers, can engage with smart contracts on public permissionless networks that enable decentralized financial services. Significantly, they provide a medium for the instantaneous movement of value between exchanges and digital wallets, often to take advantage of short-lived arbitrage opportunities, to settle bilateral over-the-counter (OTC) trades or to execute cross-border payments. This utility as a vehicle for payments is demonstrated by the more than \$1 trillion in stablecoin transaction volumes per quarter in 2021 (although this remains a fraction of traditional payment volumes cleared) and may grow to play an important role in the future of digital commerce ecosystems.

Although a solid case can be made for the coexistence of stablecoins and CBDCs (providing separate services such as DeFi services and liquidity provisioning, and direct access to central bank money, respectively), plausible scenarios could also lead to the long-term preeminence of either instrument. Some regulatory bodies have already expressed concern over substantial value flows settling via private stablecoins, implying potential actions to manage or curtail their use.⁴ Equally, full digitization of sovereign currencies could facilitate easier global trade flows. Given the notable proliferation of stablecoins over the past 12 months, however, private-sector networks have gained “first mover” advantage, increasing expectations for central banks to deliver timely solutions

providing sufficient convenience—or at minimum, a compelling vision—to create similar long-term value.

The current state of financial infrastructure in a given country will play a key role in determining the speed and extent of adoption of CBDCs, stablecoins, or non-stabilized cryptocurrencies. Those with limited present-day capabilities are prime candidates for a “leapfrog” event, similar to the rapid emergence of M-Pesa as a payments vehicle in sub-Saharan Africa⁵ or Alipay in China.⁶ In developed economies with existing real-time payments rails, the near-term incremental benefits of reduced (even instantaneous) settlement time from CBDCs may be somewhat muted if financial institutions are reluctant to invest in the necessary additional infrastructure. In these instances, distinct benefits of stablecoins (such as their ability to engage with smart contracts) may prove to be a more compelling and defensible use case over the longer term, depending on the exact CBDC implementation.

Residents of countries with sovereign currencies lacking historical stability have been among the most active adopters of cryptocurrencies as a means of exchange, especially where they are perceived as less risky than the available alternatives. Along with the potential for digital currencies to foster financial inclusion for citizens lacking access to traditional banking services (utilizing a universal digital wallet instead of a traditional fiat account), such an environment could serve as an indicator for a market primed for a potential leapfrog event (for example, the national acceptance of Bitcoin in El Salvador⁷).

Ultimately the fate of CBDCs and stablecoins may be decided by the significant forces of regulation and adoption. While CBDCs will be issued under the auspices of central banks, stablecoins are potentially subject to regulatory oversight from

⁴ Paul Vigna, “Risks of Crypto Stablecoins Attract Attention of Yellen, Fed and SEC,” *Wall Street Journal*, July 17, 2021, [wsj.com](https://www.wsj.com); Tory Newmyer, “SEC’s Gensler likens stablecoins to ‘poker chips’ amid call for tougher crypto regulation,” *The Washington Post*, September 21, 2021, [washingtonpost.com](https://www.washingtonpost.com).

⁵ Daniel Runde, “M-Pesa and the rise of the global mobile money market,” *Forbes*, August 12, 2015, [forbes.com](https://www.forbes.com).

⁶ Aaron Klein, “China’s Digital Payments Revolution,” Brookings, April 2020, [brookings.edu](https://www.brookings.edu).

⁷ Santiago Pérez and Caitlin Ostroff, “El Salvador becomes first country to adopt Bitcoin as national currency,” *Wall Street Journal*, September 7, 2021, [wsj.com](https://www.wsj.com).

⁸ “G20 confirm their support for the FATF as the global standard-setter to prevent money laundering, terrorist financing and proliferation financing,” Financial Action Task Force, April 7, 2021, [fatf-gafi.org](https://www.fatf-gafi.org).

multiple agencies, depending on their classification as assets, securities, or even money-market funds. Under scrutiny from the Financial Action Task Force, such regulation may be extended across borders.⁸ While it is too early to predict the impact of greater regulation on stablecoins, innovation continues apace with the likely emergence of many more (and newer) varieties in coming years. In contrast, early efforts to issue CBDCs have been met with only moderate adoption. For example, the equivalent of just over \$40 million in Chinese digital Yuan has thus far been distributed by lottery, and the People's Bank of China has reported around 70 million transactions since the launch of its limited multicity pilot in January 2021.⁹ While this represents a solid proof of concept, it compares with over two billion monthly active users reported by China's largest digital technology payment providers WeChat Pay and Alipay.

Preparatory moves for an uncertain landscape

Clearly these technological considerations, regulatory actions, and market dynamics carry major systemic implications for banking and the payments industry. Sheer regulation is highly unlikely to suppress the demand for digital currencies, and innovators will continue to push the envelope by developing new uses and distribution models satisfying both demand and legislative requirements. Similarly, the results of initial pilots and ongoing research of CBDCs will help shape their evolution and potential adoption.

It seems likely that the recent growth in circulation and transaction volume of stablecoins will continue, at least as long as the overall size of the cryptocurrency market continues to expand. Similarly, digital-currency activities by central banks are too widespread for current pilot efforts not to be extended. Will a two-tiered system of CBDCs and stablecoins be sustainable over time? What are the macroeconomic and geopolitical implications of the various scenarios?

Most likely there will be some form of coexistence. Within this continuum we may see flavors

determined by geography (for example, central banks such as China's exerting greater influence through direct control of monetary policy), by market incumbency among private institutions (for example, e-commerce or social media giants in the United States with potential to migrate some user transactions to stablecoins), or by sector (for example, use-based loyalty stablecoins).

Although the market is far too nascent to confidently predict outcomes, constituents from all corners of the payments ecosystem can take valuable steps to position themselves for the inevitable changes on the horizon—regardless of the form such changes take:

- Providers of financial services infrastructure should continually monitor the suitability of their design choices for future interoperability with digital currencies. For example, participation in account-based CBDCs will likely involve direct interaction with a permissioned node, while supporting stablecoins may require wallets with cross-chain access. In particular, it may be important to consider how these choices support high-potential business cases (such as instant disbursements), post-trade investor services, and rapid cross-border remittances.
- Retail banks, merchants, and payment service providers might consider the level of infrastructure investment likely needed for successful implementation of CBDCs and multiple stablecoin networks. Many retail banks already face extensive payments modernization requirements in the coming years—tackling infrastructure for digital currencies represents an additional demand on limited development capacity. Incorporating all such efforts into an integrated road map, reflecting potential synergies and possible triage, should promote long-term efficiency and avoid duplication of effort.
- The impact of CBDCs on private-sector banks likely depends on the speed of their adoption. Specifically, if adoption of CBDCs were to happen relatively quickly, the flow of funds

⁹ Wolfie Zhao, "China publishes first e-CNY whitepaper, confirming smart contract programmability," The Block, July 16, 2021, theblockcrypto.

into bank deposits would be diverted, at least temporarily, into digital cash, thereby limiting the ability of banks to lend and generate fee income with such deposits. Accordingly, it would seem in the interest of private-sector banks for the introduction of CBDCs to be slower and more carefully orchestrated, potentially with initial transaction limits.

- Chief risk and financial officers will benefit from evaluating the broad impact of digital currencies on bank liquidity and capital requirements given potential policy changes. They could monitor potential increases in funding costs, the possibility of further erosion of payments profit margins (for example, given CBDC's potential as a frictionless “free” cash replacement), and even safeguards against potential “digital bank runs”—many of the existing “circuit breakers” that afford some protection for traders and investors currently do not exist in the 24/7 cryptocurrency

markets, although such limits are being built into some CBDC designs.

- The task for government, central banks, and regulators is somewhat more straightforward: to some extent, their decisions will dictate the moves of other parties, although any traction demonstrated by in-market stablecoin solutions will necessarily factor into central bankers' approaches. We expect many will seek to assess the impact of private currencies on the efficacy of monetary policy (for instance, via value flows) and fiscal policy (for example, via government disbursements), tailoring regulatory and supervisory changes accordingly. They will want to balance countervailing factors: extensive regulation could serve essentially to prevent stablecoin use, whereas measured approaches may create a safer environment in which such currencies could flourish.

Learning from China's CBDC pilot

The most advanced market application of CBDC to date has been the People's Bank of China's (PBoC) multicity pilot of its digital version of RMB, called eCNY.¹

From late 2019 the PBoC began to pilot test eCNY in Shenzhen, Suzhou, Xiongan, and Chengdu, initially through app and wallet-based payments. The pilot gradually expanded to Shanghai, Hainan, Xian, Qingdao, and Dalian. As of June 2021, the pilot test included over 20 million personal wallets, more than 3.5 million merchant wallets, and aggregate throughput of more than 34 billion RMB (\$5.2 billion). Initial focus has been on cash replacement for payment scenarios covering transportation, shopping, and government services.

Financial inclusion is a key use case targeted to drive end-user adoption. A bank account will not be a prerequisite for consumer use of eCNY, unless a user desires to replenish a digital wallet. eCNY will carry the same legal status as cash; the PBoC will distribute the digital currency to six authorized state-owned banks, which will circulate it to consumers. Consumers are able to download and deploy a digital wallet from these banks without holding an account with them.

Potential benefits include mitigated KYC risk and reduced compliance cost related to transaction monitoring and reporting, given eCNY's “controlled anonymity” (only central banks will have full access to trading data). Enhanced technical underwriting capabilities are also anticipated, creating competitive differentiation for participating banks. As a social benefit, the digital currency is expected to streamline the distribution of targeted subsidies.

Concurrently, the PBoC has been testing cross-border payments with eCNY in Hong Kong, in a joint effort with the Hong Kong Monetary Authority. Considering the more than \$500 billion of import/export trade between Hong Kong SAR and the Chinese Mainland, the combined impact of cross-border eCNY and eHKD being piloted could meaningfully impact existing financial markets and operators via lower transaction costs, more efficient (real-time) settlement, and support for product innovations such as smart contracts.

Although no timelines for formal launch have been announced, plans are proceeding to feature eCNY capabilities at the 2022 Beijing Winter Olympics.

¹ Formerly Digital Currency Electronic Payment or DC/EP.

- Investors in highly popular and speculative cryptocurrencies—and their issuers—should anticipate the impact of CBDCs on their assets. The emergence of any single central-bank solution and related regulation could deter private-sector innovation and hinder the growth of crypto ecosystems, potentially unsettling investors in an asset class driven so much by sentiment.

Most of all, the co-evolution of stablecoins and CBDCs will directly impact society. While the future is not yet clear, certain behaviors could well signal the direction of this evolution: to what extent will physical cash still be used—and accepted—in society? In what medium of value will employees and bills be paid? Through what means will commerce be conducted, particularly if digital currencies issued on public distributed ledgers lower the cost of hosting accounts and speed payment delivery, and to what extent could a single digital currency

emerge as a global currency? To what extent will citizens resist the full traceability of payments? And to what extent will citizens be comfortable obtaining familiar banking services—such as high-yield deposits, collateralized lending, working capital, and payments services (all available in DeFi today)—without reliance on a traditional bank? And finally, how quickly will we see innovation in blockchain protocols (e.g., proof of stake) that dramatically reduces their environmental impact?

We expect answers to many of these questions to become clearer over the next few years as both stablecoins and CBDCs become more widely available, and the payments industry confronts perhaps the biggest disruption in its history. While the use cases of CBDCs and stablecoins are still emerging, it is not too early to prepare for such disruption.

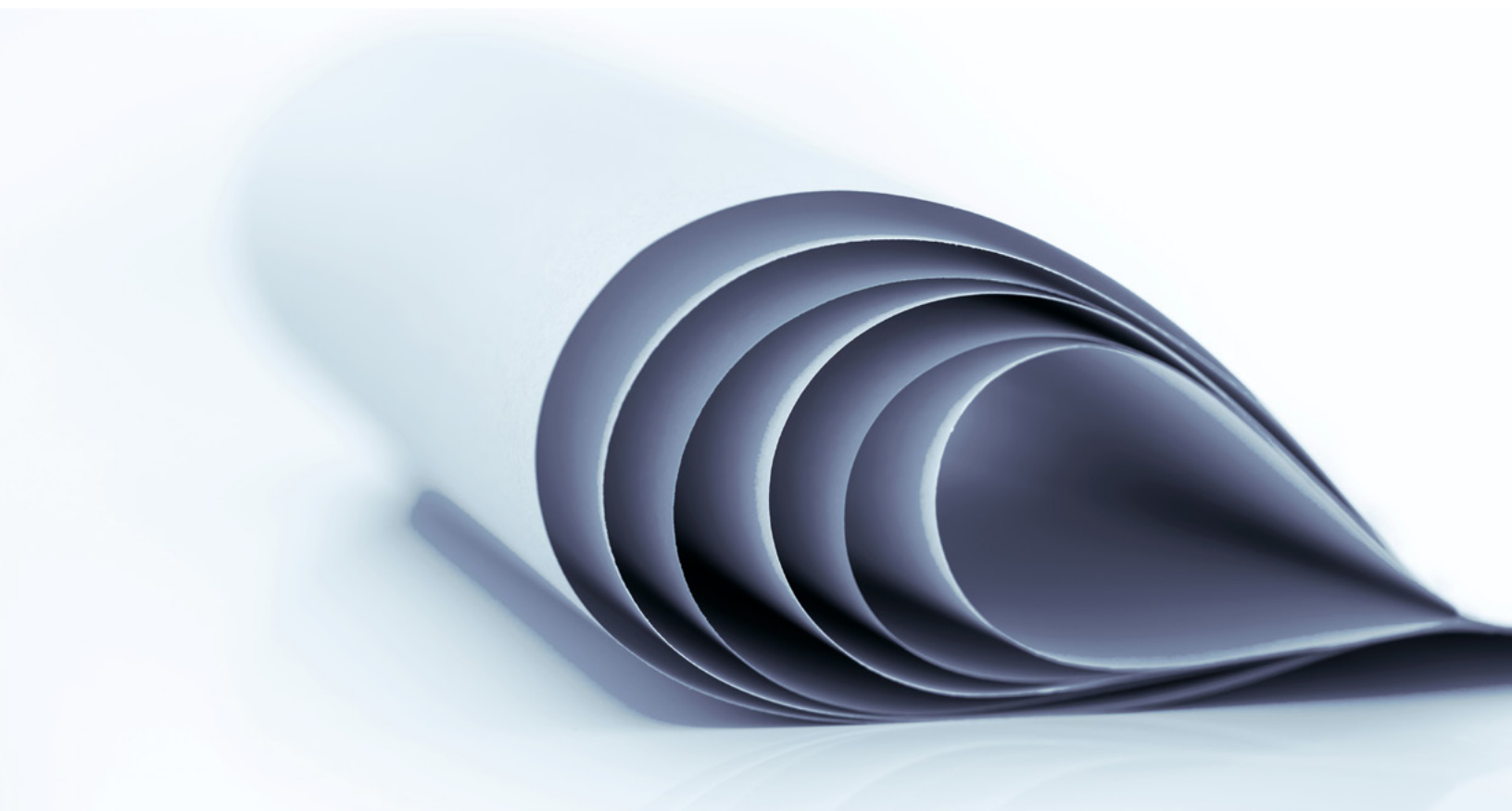
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Global Banking & Securities

How transaction banks are reinventing treasury services

As clients demand solutions to enhance their corporate treasury activities, banks are increasingly partnering with fintechs and software players.

by Alessio Botta, Reet Chaudhuri, Nunzio Digiacomio, Matteo Mantoan, and Nikki Shah



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Cash and liquidity have long been considered

key indicators of corporate financial health, and the pandemic has confirmed the continued relevance of this fundamental metric. During the crisis, “cash excellence” proved crucial in enabling continued operations for enterprises still early in their development; and as a business matures, it becomes a key lever for releasing capital to invest in growth. Recently, liquidity metrics have received as much focus as more widely publicized measures like operating margins and EBIT.

Meanwhile, underlying trends in digitization and increased investor scrutiny are setting new standards for corporate treasury professionals. Cash forecasting is regularly cited among the most inefficient processes by small and large organizations alike. CFOs and CEOs are seeking partners to help them navigate the shift from reporting to predicting. Solution providers (whether banks or software and fintech firms) able to solve this problem will be well positioned to reinforce or extend commercial relationships.

Historically, bank-provided treasury platforms have focused on core transaction execution central to their corporate relationships. The advent of software as a service and API connectivity has made robust, multifunctional workstations far more feasible; in response, software firms and other third-party providers have grasped this opportunity to create solutions that are gaining ground with corporate clients of all sizes across an array of sectors.

Banks recognize the importance of being close to decisions around core underlying payments, investment, and financing flows that their corporate customers are making. Liquidity management tools—including treasury management, cash forecasting, supply-chain finance (SCF)—are increasingly being embedded into the new generation of corporate global transaction banking (GTB) portals. For fintechs and software players with a focus on customer acquisition and retention, banks are increasingly viewed as an

important route to market and therefore potential partners. For their part, banks are clearly motivated to provide broad-based state-of-the-art support for commercial banking functions that generate over \$550 billion in annual revenue, according to McKinsey’s Global Payments Map.

Banks face several strategic decisions on this front. They must first determine their desired role in this evolving ecosystem: integrators and orchestrators of a full suite of services, background service providers, or developers of proprietary front ends built in-house. Factors such as geographic footprint, client sector focus, and investment appetite will inform the best path for a given bank.

Although the classic build-buy-partner decision remains relevant, recent years have seen a decided tilt toward the partnership model within the treasury space. Banks and third-party solutions usually offer different functionality and strengths, with all groups increasingly realizing they can exist in harmony. With speed to market a unifying objective, bank distribution paired with software-firm agility has proven to be a potent combination, whether for the white labeling of third-party technology or in scenarios where banks serve as a channel for branded providers of these services.

In this article we’ll explore the evolving needs of corporate treasury functions, and the complex and fragmented provider landscape that has developed to address them. Based on direct input from practitioners we’ll also detail the factors that should inform each bank’s decision on how to proceed in the space, and offer examples of the components of successful bank-provider partnerships.

Evolving needs of the treasurer

Forward-thinking CFOs and treasurers have begun to fundamentally rethink the treasury function, shifting its role from custodian of historical cash activities to encompass a more strategic and expansive approach of “owning” the full suite of enterprise liquidity. In support of this mandate,

treasurers are looking for technology platforms offering predictive liquidity and cash-flow modeling. Specifically, they need robust forecast capabilities that incorporate cross-border positions and exposure to various currencies.

McKinsey recently conducted focus groups with CFOs and treasurers of large corporate and mid-cap European firms. These conversations revealed significant pain points in cash forecasting and currency risk, invoice processing, and payment reconciliation. Cash forecasting is considered the least efficient financial workflow by both small and large organizations—in some cases requiring more than a week to gather and compile forecasting data from a variety of formats, causing further strain.

“What most interests me is the possibility to manage my working-capital operations without manual loading of data, specifically for invoice discounting and factoring, and to have the possibility, not only to have a reporting instrument, but also a predictive tool for operations,” was a representative example of such feedback. Another treasurer offered: “We are building a new digital platform, consolidating lots of data into an integrated system, to help us unlock the potential daily processes, improve transparency and access to real-time information, and enhance security standards.”

Overall, treasurers of large corporates highlighted five primary needs:

- Timely visibility into all global transactions
- Eliminating time-consuming and error-prone manual payment-generation workflows
- Reducing exposure to nonstandardized bank documentation and other compliance issues causing significant delays or confusion
- Protecting against fraud
- Keeping pace with industry changes to formats and technologies, particularly in the payment process

These interviews further revealed that large enterprises prioritize seamless integration with enterprise resource planning (ERP) systems and the ability to make swift decisions (for instance, access to financing, short-term investments) based on underlying cash positions. CFOs and treasurers of these businesses are exploring SCF programs—involving numerous internal and external stakeholders—for an efficient and sustainable approach to circumventing supply-chain failures resulting from financial disruption. Their priorities in structuring a comprehensive SCF program include:

- *Internal systems integration.* The typical organization supports several ERP systems across multiple entities, necessitating integration among platforms to allow treasury management systems (TMS) to work properly. A successful supply-chain finance program requires full integration among all data sources and reporting software, enabling the treasurer and other end users to make decisions based on real-time data and analytics.
- *Establishing multi-funder models.* Price is no longer the sole criterion for evaluating liquidity financing alternatives; ease of satisfying know your customer (KYC) requirements, credit capacity, and platform design play increasingly crucial roles for treasurers of large corporates. Despite their typically higher nominal price, bank-independent technology solutions are becoming the preferred model given their added flexibility, ability to support a multi-funder model, and often more rapid incorporation of new features addressing evolving treasury priorities.
- *Setting clear goals and objectives.* Successful programs require the clear identification of targets and KPIs to create a framework for execution. With various stakeholders involved (treasury, procurement, IT, legal, accounting) the absence of common and measurable objectives can lead to cross-functional misalignment. One treasurer suggested essential elements of a successful program include a negotiation strategy for payment-term extensions, as well as

a segmented messaging strategy for various suppliers. The latter point is particularly instructive: within large SCF programs, it is important to coordinate the information coded within a payment transaction based on the platforms employed by each party.

The situation in the small and medium-size enterprise (SME) space is quite different. Particularly at the smaller end of the spectrum, proprietors are less inclined to look to third-party providers for financing and treasury-management solutions, relying instead on bank offerings. Keeping pace with daily operational realities leaves little bandwidth for digitization efforts—in fact, larger B2B buyers are often the drivers behind modernization of smaller supplier partners. Nonetheless, relations between SMEs and their banks are often complicated, with lending terms frequently incompatible with client needs even when products are available. As a result, owners often elect to finance with personal funds or forgo debt altogether. McKinsey's research identified the greatest SME need to be access to liquidity, access to broader B2B markets (with cross-border funding posing particular challenges), and transaction complexity. While the threat of bank disintermediation is not as imminent for the SME market, the emergence of a compelling third-party proposition certainly poses future risk.

The liquidity management ecosystem: Solutions addressing these needs

In response to these priorities, corporate software solutions are evolving to foster cash-excellence capabilities throughout the organization. These solutions span the full scope of CFO responsibilities and offer different functionality, each contributing to improved cash and liquidity visibility and positioning. In recent years, a number of solutions have sought to address the evolving needs of businesses' cash and liquidity management—including ERP providers, banks, and third-party software including treasury management systems—and a wider set of players across the liquidity management space. McKinsey estimates annual global corporate spending to

be \$3.5 billion annually on software addressing the needs outlined in this article.

The scope of these offerings includes (Exhibit 1):

- *Next-generation approaches to cash and treasury management.* Extending beyond basic visibility and forecasting, these generate more accurate multicurrency forecasts, streamline workflows, and enable more robust hedging, financing, and investment decisions.
- *Order-to-cash/receivables solutions.* These streamline the accounts-receivable process, reducing days sales outstanding, increase collection rates, and further enhance visibility and accuracy of cash forecasts.
- *Source-to-pay solutions.* By simplifying accounts-payable and payments workflows, they generate benefits including reduced fraud losses, payments prioritization for identified suppliers, and increased visibility and accuracy of cash forecasting.
- *Integrated working-capital finance, trading, and investment activities.* This suite provides treasurers and CFOs with a wider range of options than previously available, including supply-chain finance, receivables financing, and short-term investment products.

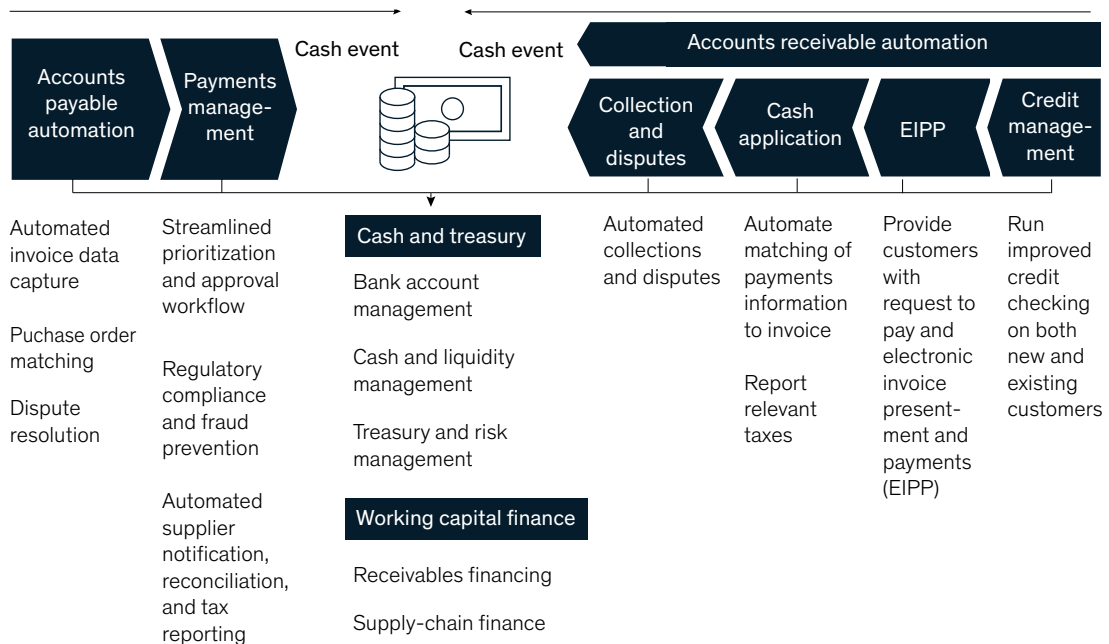
Players and approaches differ by geography: for instance, the US market is driven primarily by third-party software vendors, whereas in Asia the solutions tend to be bank-led. Cloud-based solutions have made these capabilities more accessible to SMEs—even those without a formal treasury department—thereby significantly widening the potential addressable market.

Key success factors for banks partnering with fintechs on offerings

Banks, which have historically not focused on the cash-management software space, increasingly realize that providing at least a portion of this functionality and embedding themselves more

Exhibit 1

Corporates are seeking automation and liquidity visibility across the transaction workflow.



fully into the corporate workflow reduces the risk of disintermediation from the underlying payments, investment, and financing flows of corporate customers. Accordingly, corporate liquidity-management tools—including treasury management, cash forecasting, and SCF—are increasingly embedded into the next generation of corporate GTB portals.

Some banks have developed vertically focused solutions with functionality and integrations designed to meet the unique needs of strategically important customer segments. The rise of open banking, the ongoing search for new banking revenue models, migration of services to the cloud, and client demand for integrated experiences are also informing these strategic decisions. DBS has been particularly active in this arena in Singapore; for instance, using APIs and mobile apps to enable real-time payments to online merchants and delivery-service drivers (see sidebar, “Asia-Pacific focus”).

Banks face the ever-present decision of whether to build, partner, or acquire these capabilities. Recent years have seen a material increase in the partnership model, for white labeling of third-party technology as well as banks acting as a channel or seller for such services. This model enables quicker time to market and faster introduction of new customer functionality. Fintechs and software players with a focus on customer acquisition and retention increasingly view banks as a priority channel and an efficient path to market (Exhibit 2).

In McKinsey’s experience, the following key success factors optimize the potential for bank-fintech partnerships to accelerate their time to market as well as commercial impact.

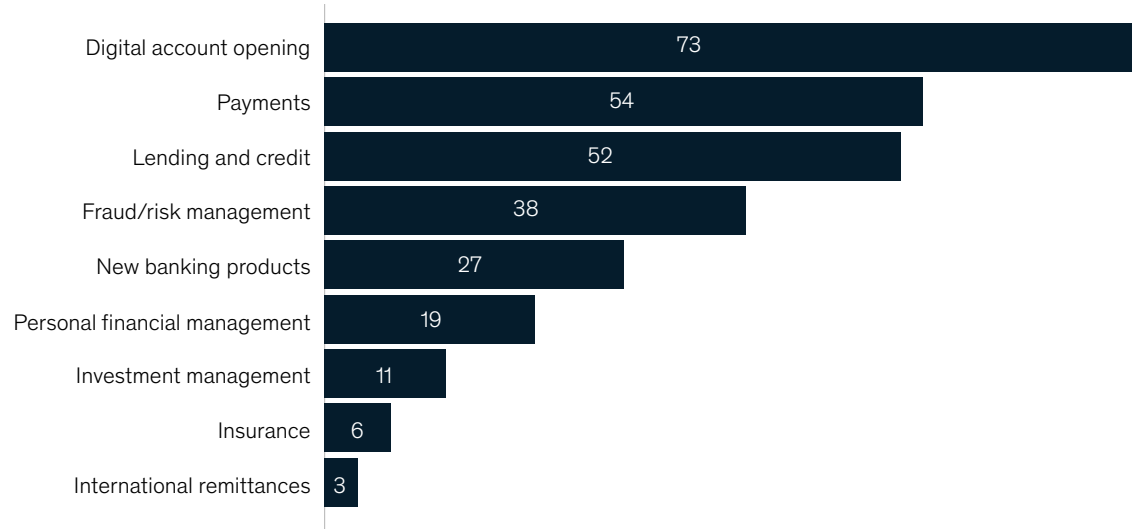
- Document a *commercial approach* determining both ownership and roles with regard to customer engagement. As an example, while initial contact might be conducted by the fintech

Exhibit 2

Bank-fintech partnerships are ramping up in treasury services.

Top bank/fintech partnership areas of focus

(% of banks citing area of focus as “very important” to their fintech partnership strategies)



Source: Cornerstone Performance Report for Banks 2019, Cornerstone Advisors, 2019, crnrstone.com

alone, subsequent meetings will be handled together since customers—particularly large corporations—are seeking integrated product offerings requiring expertise that extends beyond technology platforms.

- Develop a *go-to-market strategy* tailored to customer segments. For some segments, fintech tools may be offered as white-label solutions via bank proprietary assets, thereby differentiating the commercial offer from other segments in which the fintech offers its platform as a stand-alone suite backed by a bank acting as a counterparty for execution of payment transactions.
- Identify and agree on an *IT implementation and delivery road map* to serve as the baseline from which the bank will develop its commercial campaigns.

- Establish a *dedicated IT-business governance team* with recurring meetings to address commercial challenges as well as technology enhancements, potential change requests, or new deployments.

- Develop *internal expert capabilities in the partnership products* (likely in product specialist and relationship manager roles) as well as new digital tools the fintech may bring to the table as key assets. When proposing client solutions, these individuals will ask for interactive demo sessions, during which the sales network must possess the capabilities to surf the new platform and manage the end-to-end digital process underlying the new product.
- Identify *KPIs* by which the overall *partnership will be valued* and establish the proper time frame for KPI monitoring and assessment.

Asia-Pacific focus

While the Asia-Pacific payments sector has benefited from extensive fintech activity focused on digitizing small merchants and enhancing overall business efficiency, there has been relatively lighter emphasis on modernizing treasury solutions for large corporates. Such opportunities are limited in part by divergence in infrastructure and regulatory standards across countries (currency convertibility, real-time payment rails, and market access, for example) making it challenging for banks or software providers to create solutions capable of delivering sufficient scale and value for multinational clients operating across the region.

Some banks in the region have taken the initiative to develop bespoke solutions addressing specific client needs, however—for example:

- Singaporean multinational bank DBS implemented a fully automated real-time payment system for drivers at ride-hailing firm Gojek. This created a differentiating feature recognized by the client as a recruiting advantage. Rather than waiting until the end of the week for payment (as with other taxi firms), Gojek's drivers can now transfer funds to their bank account after each trip.
- ICICI Bank's STACK offering provides customized digital banking services to companies in over 15 sectors, with the goal of facilitating operations across these clients' entire ecosystem. The Indian bank also established eight "ecosystem branches" to support and expand the rollout of these capabilities across channel partners, employees, vendors, and other counterparties.

Going forward, large Asia-Pacific corporate entities are likely to enjoy features such as dynamic cash-flow forecasting, source-to-pay solutions, and multi-funder models, similar to their counterparts in more developed markets. In preparation, banks in the region should stay ahead of the curve by rethinking their treasury-services strategies. This involves determining which client groups to target (as not all capabilities will resonate equally across sectors), which features are likely to gain the most initial traction with that segment, and whether these solutions are best developed in-house or via partnership with a fintech firm.

Partnership benefits

The following examples give some insights into how established partnerships work to enhance the offerings of both parties:

- Société Générale and Kyriba joined forces to offer cloud management solutions to their corporate clients. These services include real-time monitoring of treasury positions, payments automation, multibank connectivity, and ERP payment validation workflow management.
- Citi's Smart Match product, enabling corporate clients to enhance straight-through-reconciliation rates in cash applications, is powered in part by AI and machine-learning capabilities from HighRadius. The parties formed a strategic partnership in 2018,¹ helping Citi and its clients to merge disparate pieces of payment data and reconcile payments received against invoices issued more efficiently.

¹"Citi Partners with Fintech HighRadius to Launch Citi@ Smart Match Powered by Artificial Intelligence and Machine Learning," July 12, 2018, highradius.com.

- DNB's 2018 strategic channel sales partnership with Kyriba provided the bank with a new set of updated financial management tools to centralize payments, automate workflows, and detect and prevent payments fraud in real time for more than 220,000 corporate clients. These cloud-based services also address the need for stronger compliance and data protection required by evolving government regulation.

Banks are motivated to provide broad-based state-of-the-art support for commercial banking functions that generate over half a trillion dollars globally in annual revenue. They remain in a sound position to determine their role in serving

these clients going forward. Although buy and build remain valid alternatives, in most cases a partnership approach enables banks to introduce new products and functionality more rapidly in an environment in which time to market is critical.

To successfully manage partnerships with fintechs and capitalize on their opportunity to play a leading role in the redefinition of treasury services, banks need to enhance a variety of internal capabilities ranging from sales management and product evangelism, to robust commercial and IT governance, and effective go-to-market strategies.

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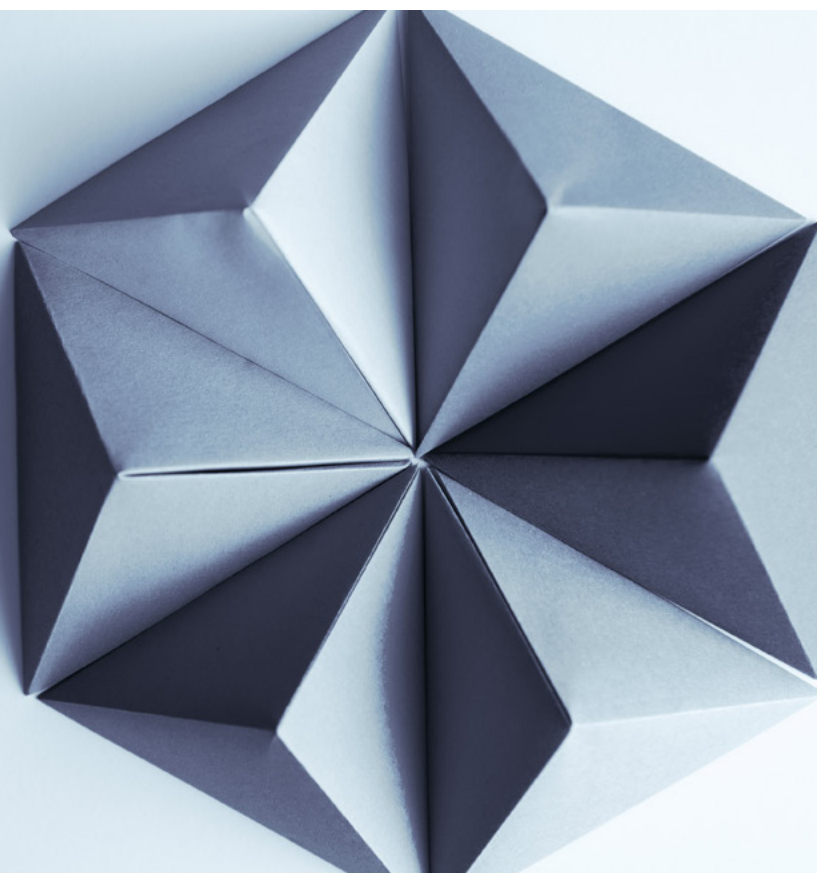
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Global Banking & Securities

Merchant acquiring and the \$100 billion opportunity in small business

What will it take to grow in the age of value-added services? Our work with payments practitioners suggests a few promising strategies for serving smaller companies.

by Ashwin Alexander, Puneet Dikshit, Vik Iyer, and Julie Stefanich



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Over the past decade, core payments processing has become commoditized, squeezing the margins of merchant acquirers. Their future growth is likely to come from providing merchants with value-added services and solutions for enabling e-commerce. Merchants are increasingly willing to pay for commerce-enablement services, such as loyalty programs, gift cards, and affiliate marketing, as well as for payments performance improvements such as enhanced authorization rates and charge-back mitigation. What's more, enterprises that have scaled globally or digitally are prepared to pay a premium for sophisticated multi-country processors, local support, enhanced reconciliation, payments-adjacent services, and better payments performance in general.¹ This shift is even more pronounced in merchant categories where digitization has recently accelerated, such as food and beverages, grocery, and homeware.

After a decade of consolidation among scale players, integration of payments and software, rapid digitization of small and medium-size businesses (SMBs), and emergence of powerful disruptors— independent software vendors (ISVs), fintechs, and innovative merchant acquirers—this arena is strongly contested and set to become even more so in the coming years. In this chapter, we draw on McKinsey research and interviews with payments practitioners to assess the scale of the opportunity in serving smaller merchants, and we outline four strategies for acquirers pursuing growth.

The continuing rise of value-added services

As acquirers and other merchant-services providers begin to offer software and services focused on commerce enablement, they are also tapping into merchants' marketing budgets, where price sensitivity is lower and the perceived value of services is higher. Brands that negotiate hard over each basis point of merchant discounts are prepared to pay several percentage points to

affiliate marketing platforms and buy now, pay later (BNPL) providers that position themselves as partners to help close a sale or drive more traffic through the door.

Meanwhile, as the payments business becomes more integrated into software, merchant-services providers can address larger value pools. According to data from a McKinsey analysis of card transactions at US merchant acquirers, payments performance and commerce enablement could account for approximately 80 percent of revenue growth in payments-related merchant services over the next five years (Exhibit 1).

Most of this expected revenue growth is likely to come from SMBs and the platforms that serve them. Categories such as real estate, education, and professional services include significant numbers of small businesses that can be expected to drive substantial growth in integrated payments solutions. This growth will be further fueled by the continuing expansion of marketplaces and social commerce, as small and even micro businesses (such as content creators) start to use payments software and services. In total, SMBs are expected to spend more than \$100 billion on payments services by 2025²—an opportunity that merchant acquirers must address quickly, given the intensifying competitive pressures in the market.

Four strategies for success

Serving SMBs effectively will be critical for merchant acquirers pursuing growth across a range of markets. To accomplish this, acquirers should investigate a mix of four strategies.

Optimize the performance of ISV partners

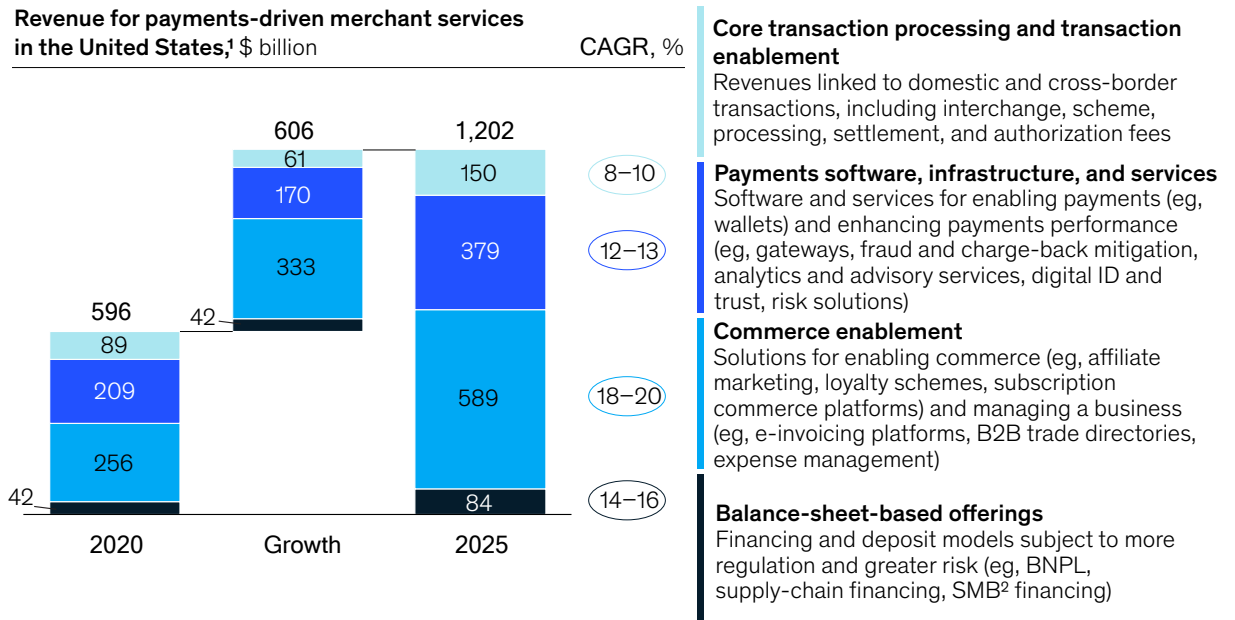
In large, developed markets such as the United States, ISVs derive a sizable portion of their revenues from payments. The rise of ISVs is putting pressure on acquirers' margins and shrinking their share of the merchant wallet. As a result, most

¹ Puneet Dikshit and Tobias Lundberg, "Merchant acquiring: The rise of merchant services," *2020 McKinsey Global Payments Report*, October 2020, McKinsey.com.

² Based on McKinsey analysis of SMB expense wallets (spending by addressable SMBs on addressable categories).

Exhibit 1

Most growth in merchant services in the US will come from performance solutions and commerce enablement.



¹Includes revenues from all providers of merchant services that offer payments as a core part of their proposition.

²Small and medium-size business.

Source: McKinsey Payments Commerce Cube

leading acquirers are targeting ISVs as distribution or product partners, as seen in First Data's (now Fiserv) purchase of Clover in 2012 and U.S. Bank's 2019 purchase of talech.³ Further, as acquirers increasingly serve merchants through ISVs, they need to invest heavily in enhancing their partners' performance across key channels.

From our observations and conversations with industry participants, we have identified recurring issues with ISV sales and production journeys that acquirers should avoid. For each set of issues, acquirers can apply a set of best practices that help prevent problems (see sidebar, "Common missteps

in ISV sales and production journeys, and how to avoid them").

Target a broader share of merchants' expense wallets

Disruptive players in merchant services, recognizing that payments represents only a small share of the SMB wallet, are targeting much bigger opportunities in software and services. A typical SMB merchant spends less than 10 percent of its budget for software and services on payments acceptance. The remainder goes to a range of services from point-of-sale (POS) and business-management software to loyalty advertising, logistics, and

³ U.S. Bank's payments subsidiary is Elavon.

Common missteps in ISV sales and production journeys, and how to avoid them

Our experience suggests that at every stage in an acquirer's relationship with ISVs, there are issues to avoid and best practices to observe.

Before signing a deal

In the period leading up to signing a deal, the following missteps lead to problems:

- The acquirer's business development teams fail to engage with the ISV's management and technical teams, leading to misaligned expectations on core capabilities, growth goals, and timelines.
- Business development teams rush the sales process and engage only one or two executives at the ISV, failing to secure the broader organizational buy-in needed to ensure the ISV is willing to invest and drive volumes to the acquirer.
- The acquirer and ISV fail to articulate shared goals that the ISV's engineering and other teams will co-own and track.

Best practices: Shortly before the deal is signed, bring in implementation and partner management teams to agree on estimates, expectations, and integration plan, and begin building relationships. Align the incentives of business development teams with deal signing, volume sales, and achieving full-scale production within 15 percent of expectations.

Deal closure and implementation

The following mistakes are sources of problems during closure and implementation of a deal:

- Multiple handoffs across business development, implementation, and partner management result in poor accountability and a subpar experience for merchants, which may then defect.
- Incentives for business development teams are based on deals signed, not actual payments volumes processed. When this occurs, the teams have little involvement beyond implementation and provide only limited support for ISV onboarding.
- The acquirer and ISV tech teams are not aligned on the resources needed to meet integration milestones and timelines, so they miss targets.
- No clear plans exist for getting the ISV to scale through co-marketing, targeted campaigns, key performance indicators (KPIs) for the first 180 days, and so on. Consequently, growth goals are never reached.
- Merchant onboarding lacks the speed and flexibility necessary to ensure a smooth experience. For instance, tasks are performed sequentially, rather than in parallel.

Best practices: Before the deal is signed, ensure that goals are jointly owned with the ISV; plans are in place for tech integration and ramp-up; and key owners, check-ins, and KPIs are identified. Simplify, test, and refine onboarding and implementation to create a seamless hands-off process, with complete transparency on timelines, targets, and accountability.

The first 180 days

During the first 180 days following an acquisition, additional missteps are common:

- The tracking of the highest-impact service-level agreements (SLAs) is not sufficiently disciplined to ensure the success of integration and ramp-up.
- A linear (rather than parallel) approach to transaction processing slows down testing, discovery, and the tackling of issues.

Best practices: Quickly get the first few percent of transactions live to identify and address issues. Track satisfaction of key client executives at deal signing, 45 days, 90 days, and 180 days to ascertain the trajectory and address emerging issues. Set up a small working team with two or three people from each organization; schedule monthly meetings for this team to track growth, volumes, and so on. With larger ISVs, commit a member of the sales team to spend time with the relationship manager to drive leads from the ISV.

Ongoing partner management

Over the longer term, additional problems can arise:

- Poor responsiveness and inflexibility in changing SLAs results in attrition and/or an inability to ramp up processing volumes.
- Unclear ownership between the acquirer and the ISV, the use of legacy processes for merchant servicing, and poor accountability and tracking lead to service issues and higher attrition rates.
- A lack of clear metrics or processes to act as leading indicators of dormancy or poor merchant experience results in lower satisfaction and higher churn.

Best practices: Set up quarterly meetings at senior executive level for the top 30 to 40 percent of ISVs. Hold joint meetings with ISV tech teams to ensure clear reporting and to understand the tech road map, new deployments, and expansions.

Cross-cutting issues

Some additional issues may arise at any point in this journey:

- Implementation can stall if the acquirer sources multiple solutions from one ISV without planning how to align and prioritize them; neglects outreach, leading to limited buy-in at the ISV; and fails to develop internal champions.
- A cultural and talent mismatch between slow-moving incumbent acquirers and small and nimble ISVs tends to impede responsiveness, damaging the merchant experience.

We estimate that, as a result of these common issues, between 30 and 50 percent of ISVs become dormant or drop off during implementation or later. What's more, among the ISVs that get as far as ramping up, 40 to 45 percent will either go dormant subsequently or fail to reach their expected production level for the first two years.

insurance (Exhibit 2). Delivering these broader sets of services is becoming easier with the increasing integration of acquiring and software. ISVs are now able to integrate payments, financing, and a range of other products into their platforms to increase their revenues per merchant served.

For incumbent acquirers, the larger the share of residuals they hand over to their ISV and bank partners, the more critical it is to target a bigger portion of merchants' expense wallets by broadening their range of offerings. How readily they can do so depends on whether they have direct-to-merchant access and a merchant-facing portal or interface, instead of relying on other platforms and ISVs to reach SMBs. Those with direct-to-merchant access need to expand their product suite through proprietary or third-party products and adjust their economic and sales models to boost product penetration. Those that

serve merchants via ISVs could build solutions that their ISVs can white-label and cross-sell. One example of how an acquirer with indirect access can increase its share of merchants' expense wallets is Stripe, with its suite of services across Stripe Treasury, Stripe Issuing, and Stripe Capital.

The opportunity to target a larger share of wallets is greatest in mature SMB acquiring markets such as the United States and the United Kingdom. However, it is growing slowly in other markets where merchants' expectations are rising and local solutions are evolving.

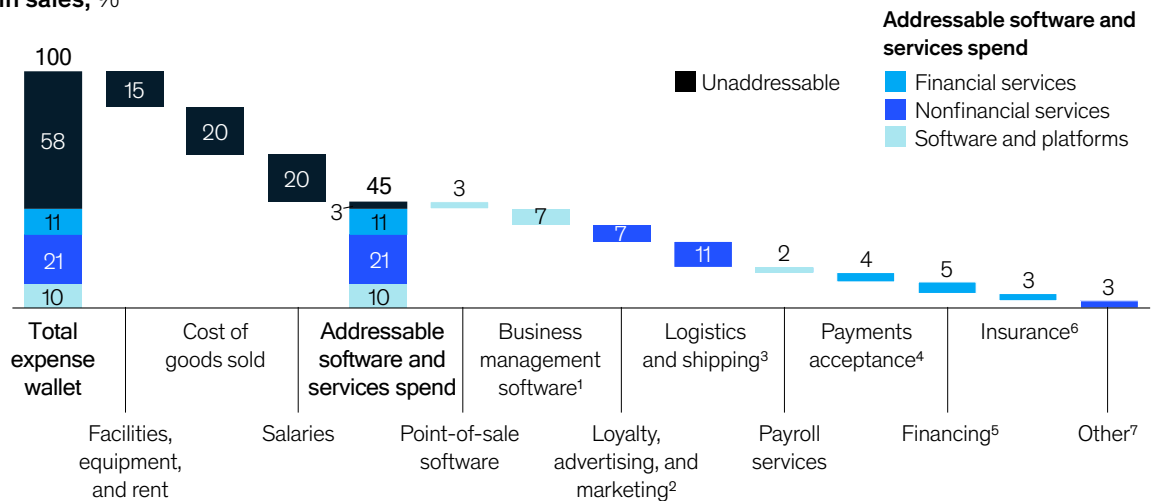
Focus on specific industries

Over the past two years, payments providers serving SMBs have started to organize their products, services, and go-to-market approach by industry. The convergence of payments and software, coupled with merchants' desire to procure

Exhibit 2

Acquirers can increase their share of merchants' wallets by offering broader services beyond pure payments.

Typical expense-wallet breakdown of a small and medium-size business (SMB) with >\$100,000 in sales, %



¹Includes software for accounting, ERP, inventory management, and expense management.

²Includes expenses incurred on marketplace platforms, SEO/SEM, social media, affiliate marketing, loyalty programs, and promotions.

³Includes payments to marketplaces and directly to services providers, including returns handling.

⁴Includes all costs related to payments acceptance, including fraud, charge-back, and point-of-sale financing.

⁵Includes interest payments on loans, merchant cash advances, net credit term payments, invoice discounting and receivables financing, and equipment financing but not payments related to commercial mortgages.

⁶Includes group insurance and healthcare.

⁷Includes expenses related to banking and professional services such as cleaning, taxes, and utilities.

Source: McKinsey analysis of the expenses of approximately 5,000 SMBs from retail, food and beverages, manufacturing, personal services, home and repair, B2B services, professional services, and healthcare

solutions from a single provider, has paved the way for merchant acquirers and ISVs to deliver integrated industry-specific solutions.

Whether acquirers reach merchants via proprietary channels, independent sales organizations, or banks, they need to focus on industries where they can build tailored solutions that go beyond payments. The recently launched Square for Restaurants offers services such as integration with delivery platforms, order modification, the merging of bar and table orders, and bill splitting, for example. Other providers are following similar industry-focused strategies. Mindbody, Daxko, and ABC Fitness Solutions focus on health clubs and gyms, Transact on education, AffiniPay on professional services, and Pushpay and Vanco on charities and religious organizations.

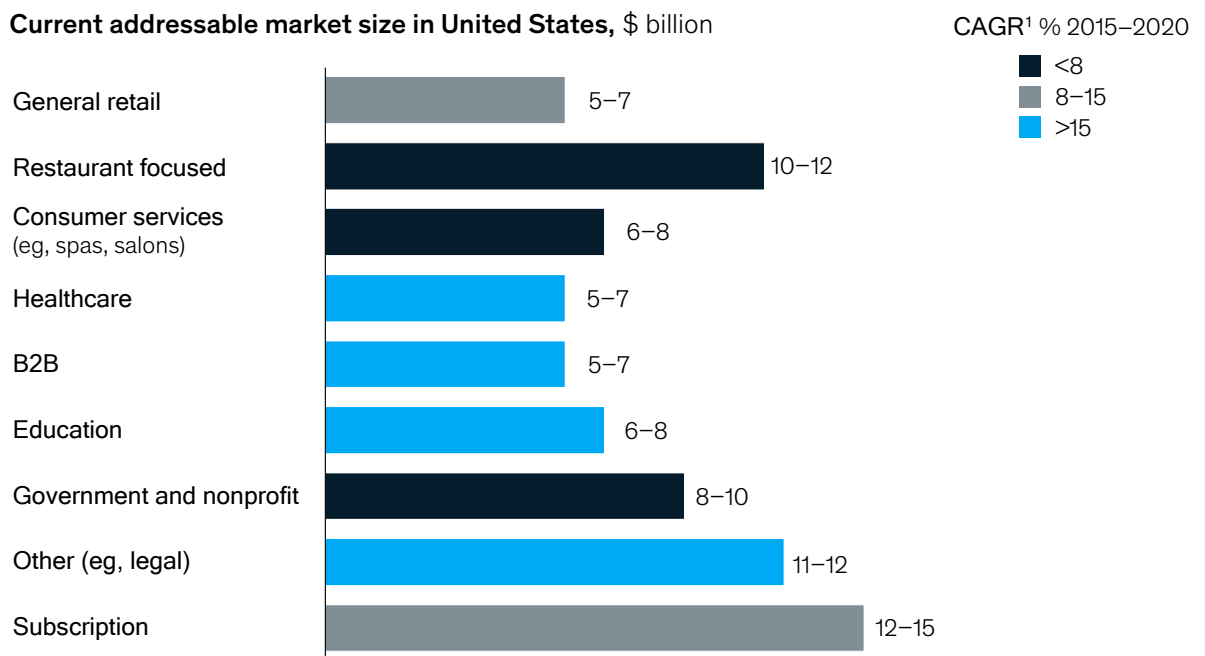
Providers pursuing industry-focused strategies also need to tailor their offerings by region. For

instance, large and developed economies have highly competitive markets for merchant services in general retail, consumer services, and food and beverages, while Asia-Pacific and Latin America have yet to develop such markets at scale. Moreover, industries differ in their economics, scale, and attractiveness, which will partly depend on the stage of digitization they have reached. Exhibit 3 provides estimates of the size of some key verticals in the United States.

It's worth noting that a sector focus can limit scalability, given the steady investments that in-house platforms and software solutions must make to remain competitive. An alternative strategy—pursued by Adyen, among others—is to build horizontal cross-industry platform capabilities that ISVs can use in areas such as lending, issuing, and POS financing. As acquirers gear themselves up for the next decade of competition, most have

Exhibit 3

Merchant acquirers pursuing an industry-focused strategy must assess the attractiveness of each vertical.



¹Compound annual growth rate.

only a year or two to decide whether to adopt a vertical or horizontal focus.

Develop solutions for platforms

Marketplaces such as Amazon Marketplace, eBay, Etsy, Walmart Marketplace, and Wayfair continue to capture a significant share of the SMBs and microbusinesses that are shifting to e-commerce. Overall, we expect 50 to 70 percent of digital commerce will be conducted on these platforms by 2025, albeit with differences between markets. We can expect this shift to apply across multiple industries, including media (such as TikTok), retail (such as Amazon and MercadoLibre), and travel and hospitality (such as Airbnb).

To succeed in this segment, acquirers need to offer specific marketplaces tailored solutions, such as cross-border disbursements and submerchant onboarding.⁴ Seller-enablement solutions such as instant payouts and seller financing represent a large and underserved value pool that acquirers can access via an increasingly consolidated set of marketplaces such as Amazon and eBay. Merchant

acquirers with access to sellers will also be well positioned to offer them increased platform reliability by providing enablement solutions such as continuity insurance and liability protection.

As social commerce grows, social platforms and creator platforms will develop distinctive needs that acquirers can target. Underserved opportunities exist in areas such as enabling micropayments (as Twitter has done with Tip Jar, and YouTube with Super Thanks), enabling creator disbursements, and monetizing payments more effectively, whether within platforms or for providers that serve creators, such as Later and Ko-fi.

To keep growing, merchant acquirers will need to expand beyond core payments acceptance to offer merchants solutions for enabling e-commerce. With disruptive players already investing heavily in this arena, failure to move fast could come at a high cost in lost growth.

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⁴ A submerchant is a merchant that sells on a marketplace that handles purchases on its behalf.

